

**ANNEXURE I**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU**

**1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**

**N-SCHEME**

(To be implemented for the students admitted from the year 2020-21 onwards)

**CURRICULUM OUTLINE**

**FIFTH SEMESTER**

Col. No	Subject Code	SUBJECT	HOURS PER WEEK				
			Theory Hours	Drawing	Tutorial	Practical hours	Total Hours
1	4012510	Estimating and Costing	5	-	-	-	5
2	4012520	Environmental Engineering	4	-	-	-	4
3	4012531	<b><u>Elective Theory - I</u></b> i) Elements of Interior Design	4	-	-	-	4
	4012532	ii) Contemporary Architecture					
	4012533	iii) Architectural Acoustics					
4	4012540	Computer Application in Architecture – II	-	-	-	5	5
5	4012550	Architectural Design Studio – II	-	-	-	6	6
6	4012561	<b><u>Elective Practical-I</u></b> i) Architectural Model Making	-	-	-	4	4
	4012562	ii) Elements of Interior Design Practical					
	4012563	iii) Surveying Practice					
7	4012570	Entrepreneurship and Startups	-	-	-	4	4
Extra/ Co-curricular activities		Physical Education	-	-	-	-	2
		Library	-	-	-	-	1
<b>TOTAL</b>			<b>13</b>	<b>-</b>	<b>-</b>	<b>19</b>	<b>35</b>

**ANNEXURE II**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU**

**1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**

**N-SCHEME**

(To be implemented for the students admitted from the year 2020-21 onwards)

**SCHEME OF THE EXAMINATION**

**FIFTH SEMESTER**

Subject Code	Subject Name	Examination Marks			Minimum for pass	Duration of Exam Hours
		Internal assessment Marks	Board Exam. Marks (Converted to 75)	Total Mark		
4012510	Estimating and Costing	25	100	100	40	3
4012520	Environmental Engineering	25	100	100	40	3
4012531	<b>Elective Theory - I</b> i) Elements of Interior Design	25	100	100	40	3
4012532	ii) Contemporary Architecture					
4012533	iii) Architectural Acoustics					
4012540	Computer Application in Architecture – II	25	100	100	50	3
4012550	Architectural Design Studio – II	25	100	100	50	3
4012561	<b>Elective Practical-I</b> i) Architectural Model Making	25	100	100	50	3
4012562	ii) Elements of Interior Design Practical					
4012563	iii) Surveying Practice					
4012570	Entrepreneurship and Startups	25	100	100	50	3
<b>TOTAL</b>		<b>175</b>	<b>700</b>	<b>700</b>		

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP

Subject Code : 4012510

Semester : V Semester

Subject Title : ESTIMATING AND COSTING

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per semester: 16 Weeks

Subject	Instructions		Examination			Duration
	Hours/Week	Hours / Semester	Marks			
			Internal Assessment	Board Examination	Total	
ESTIMATING AND COSTING	5 Hours	80 Hours	25	100*	100	3 Hours

\*Examination will be conducted for 100 marks and it will be reduced to 75 marks.

**Topics and Allocation of Hours**

UNIT	Topics	Hrs.
I	INTRODUCTION, APPROXIMATE ESTIMATES	14
II	SPECIFICATION REPORT WRITING	14
III	MEASUREMENTS & MATERIAL REQUIREMENT, DATA	15
IV	VALUATION, RENT FIXATION	15
V	DETAILED ESTIMATE	15
TEST & MODEL EXAMINATION		7
<b>TOTAL</b>		<b>80</b>

**RATIONALE:**

Diploma holders in Architectural Assistantship find employment with private architects and also some percentage of them start their own enterprises. Therefore, the profession demands the development of basic knowledge and skills of quantity surveying and costing. This subject covers different methods of taking out quantities, units of measurement, calculation of quantities of materials, preparation of cost estimates, specification writing, Report writing, Valuation and rent fixation.

**OBJECTIVES:**

At the completion of the study, the students will be able

- To study the types of estimates.
- To know the different methods of taking out quantities
- To prepare the rough cost estimate, detailed estimates, detailed reports, specifications, abstract of cost and material requirements for a small building
- To Calculate quantities of materials and analysis of rates for each items of work
- To value a building and also fix the rate

**DETAILED SYLLABUS**

**4012510- ESTIMATING AND COSTING**

Contents: Theory

Unit	Name of the Topic	Hours
<b>I</b>	<p><b>1.1 INTRODUCTION</b></p> <p>Estimation – Definition of Estimate - Types of Estimates – Approximate Estimate – Detailed Estimate – Revised Estimate – Supplementary Estimate – Sub Estimate – Annual maintenance Estimate – Repair Estimate – Complete Estimate.</p> <p><b>1.2 APPROXIMATE ESTIMATES</b></p> <p>Approximate estimate – Types – Plinth area method – Cubical content method – Service unit method – Typical bay method – Simple problems on preliminary estimate of a building project.</p>	<b>5</b>          <b>9</b>
<b>II</b>	<p><b>2.1 SPECIFICATION &amp; REPORT WRITING</b></p> <p>Specification – Necessity – Types of Specification - Essential requirements of Specification - Steps involved in Standard Specification</p> <p>Detailed Specifications for the following items of works</p> <ul style="list-style-type: none"> <li>➤ Clearing and Levelling site</li> <li>➤ Excavation of Trenches for foundations.</li> <li>➤ Laying plain cement concrete bed, Footings and Plinth with R.R. Masonry and Brick Masonry.</li> <li>➤ Filling in foundation and Plinth.</li> <li>➤ Laying Damp Proof course at Plinth level.</li> <li>➤ Super structure with Brick Masonry in Cement Mortar.</li> </ul>	<b>7</b>

	<ul style="list-style-type: none"> <li>➤ R.C.C works.</li> <li>➤ Plastering works</li> <li>➤ Cement concrete flooring</li> <li>➤ Wood works like Doors and Windows</li> </ul> <p><b>2.2 REPORT WRITING</b></p> <p>Report Writing – Points to be considered while a report writing – Writing typical reports for works such as</p> <ol style="list-style-type: none"> <li>i. Buildings – Residential / Hospital / School</li> <li>ii. Demolishing a building</li> <li>iii. Conservation of a monumental building</li> <li>iv. Water supply system for a village.</li> </ol>	<b>7</b>
<b>III</b>	<p><b>3.1 MEASUREMENTS &amp; MATERIAL REQUIREMENT</b></p> <p>Units of measurements for works and materials - Degree of accuracy in measurements - Deduction for openings in masonry, plastering and white washing area – Painting co-efficient – out turn of works - working out of materials requirements – cement, sand, bricks and aggregates.</p> <p><b>3.2 DATA</b></p> <p>Data – Theory – Main and sub data – Observed data - Lead statement –Schedule of rates – Standard data book - Sundries – Lump sum provision -Preparation of data using standard data and schedule of rates - Brick and Stone masonries – Lime Concrete and Cement Concrete - Flooring Works and weathering course - R.C. works for slab, sunshade, beam and column -Partition wall – Form works for beams and slabs - White washing and Painting works - A.C. sheet roofing – Wall plastering – ceiling plastering -Pointing – Plumbing and sanitary works in Buildings.</p>	<b>6</b>
<b>IV</b>	<p><b>4.1 VALUATION</b></p> <p>Valuation – Purpose of Valuation- Types of Valuation - Book value – Market value – Salvage value – Scrap value - Depreciation – Obsolescence - Sinking fund – Mortgage and lease -Annuity- Definition and types- Simple Problems on Present value of building only</p>	<b>8</b>

	<p><b>4.2 RENT FIXATION</b></p> <p>Fixation of rent – Out goings – Gross and net income – Years Purchase -Capital Cost -Standard rent – Market rent – Economical rent - Problems on rent calculation only (Simple Problems)</p>	<b>7</b>
<b>V</b>	<p><b>5.1 STAGES OF DETAILED ESTIMATE</b></p> <p>Taking off quantities – Systems – Trade system – Group system – Advantages of group system – Methods – Long wall and Short wall method– Centre line method – Abstract estimate – Lump sum provision and contingencies – quantity surveyor – duties – essential qualities.</p> <p><b>5.2 DETAILED ESTIMATE</b></p> <p>Detailed estimate for buildings using Trade system. Taking off quantities for all items of works in the following types of buildings by centre line method.</p> <p>Taking the quantities of single storey Residential building with two / three rooms (Load bearing structure) with RCC roof</p> <p>Taking the quantities of single storey Residential building with two / three rooms (Framed structure) with RCC roof</p>	<b>4</b>          <b>11</b>

**TEXT BOOKS**

1. “B.N.Dutta”-“ Estimating and Costing”
2. “S.C.Rangwala”-“ Estimating and Costing”
3. “ D.D.Kohli & R.D.Kohli”-“Estimating and Costing”

**REFERENCE BOOKS**

1. “Mahajan”- “Estimating and Costing”
2. “DD Kohli”- “Estimating, Costing and Accounts”

**WEBSITE**

- <https://nptel.ac.in>  
<https://ndl.iitkgp.ac.in>



**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

[www.binils.com](http://www.binils.com)  
V SEMESTER

**ENVIRONMENTAL  
ENGINEERING**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012520  
Semester : V Semester  
Subject Title : ENVIRONMENTAL ENGINEERING

**TEACHING AND SCHEME OF EXAMINATION**

No. of hours per Semester: 16 Weeks

Subject	Instructions		Examination			Duration
	Hours / Week	Hours / Semester	Marks			
			Internal Assessment	Board Examination	Total	
ENVIRONMENTAL ENGINEERING	4Hours	64Hours	25	100*	100	3 Hours

\*Examination will be conducted for 100 marks and it will be reduced to 75 marks.

**Topics and Allocation of Hours**

UNIT	Topics	Hrs.
I	QUANTITY AND QUALITY OF WATER	11
II	TREATMENT OF WATER AND DISTRIBUTION SYSTEM	11
III	ECOSYSTEM, BIODIVERSITY AND ITS CONSERVATION	11
IV	ENVIRONMENTAL POLLUTION AND CONTROL	11
V	DISASTER MANAGEMENT, SANITATION & STORM WATER DRAIN	13
TEST & MODEL EXAMINATION		7
<b>TOTAL</b>		<b>64</b>

**RATIONALE:**

Profound anthropogenic changes are occurring in the land, water, and air around us, and education needs to respond to these changes. These educate students so that they are well informed about vital, current issues and capable of full political participation. It has a responsibility to provide means for the study of environmental problems and to encourage students to develop their own perspectives on these problems. Environmental studies offers numerous opportunities for rigorous interdisciplinary work, addressing the scientific, engineering, social, political, economic, literary, and philosophical dimensions of environmental topics. The minor helps guide students to the many academic fields that afford a perspective on environmental problems and enables them to explore questions most compelling to them from the vantage point of various disciplines.

**OBJECTIVES:**

At the completion of the study, the students will be able to

- State the quantity of water for various needs and forecasting future population.
- Describe the quality of water and specifying BIS Standards.
- Describe various treatment process and different distribution system.
- Understand the definitions of environmental studies
- Recognize the importance and public awareness about nature
- Gain knowledge about the eco system patterns and their functions
- Understand bio diversity and conservation
- Understand Causes, effects and control measures of environmental pollution
- Create awareness about Environment Management and disaster management



	layouts of distribution systems – Dead end, Grid iron, Radial and Circular systems – Merits, demerits and suitability of different layout systems – Service reservoirs – underground and over head tanks.	
III	<p><b>3.1 ECOSYSTEM</b></p> <p>Definition, Scope and importance of environmental study - Need for public awareness. Structure and function of an ecosystem – decomposers - Energy flow in the ecosystem – Ecological succession - Food chains, food webs and ecological pyramids. Types - characteristic features, structure and function of the following Forest ecosystem - Grassland ecosystem - Desert ecosystem – Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)</p>	6
	<p><b>3.2 BIODIVERSITY AND ITS CONSERVATION</b></p> <p>Introduction – Definition of Genetic, species and ecosystem diversity - Value of biodiversity - Consumptive use - productive use, social, ethical, and aesthetic and option values - Hot spots of biodiversity - Threats to biodiversity - Habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India-Conservation of biodiversity- In-situ and Ex-situ conservation of biodiversity</p>	5
IV	<p><b>ENVIRONMENTAL POLLUTION AND CONTROL</b></p> <p><b>4.1 WATER, LAND AND NOISE POLLUTION</b></p> <p>Environment - Definition – Water pollution – Sources of water pollution – Effects and prevention of water pollution-Land pollution – Sources of land pollution – Effects and prevention of Land pollution – Pollution impact on land due to non – biodegradable waste matters (polythene bags, P.V.C. &amp; other plastic materials, Glass, etc.,) – Remedial measures - Noise pollution management–Effects of noise on people–Noise control methods.</p>	6
	<p><b>4.2 AIR POLLUTION</b></p> <p>Air Pollution – Classification of Air Pollutants–Sources–Natural and Manmade sources– Effects of Air Pollution on human beings, animals, plants and materials – Control of Air Pollution – Forest Management –Direct benefit from forest – deforestation causes and effective measures to conserve the forest wealth – Environmental degradation – Green House effect – Ozone layer depletion – Acid Rain.</p>	5



#### REFERENCES

1. "Suresh K.Dhamija", "Environmental Studies", "S.K.Katarial Sons Delhi",
2. "M.N. Rao & H.V. Rao," "Air pollution " "Tata Mcgraw hill Publishing Company Ltd."
3. "Heywood, V.H & Watson, R.T."-" Global Biodiversity Assesment" Cambridge Univ. Press1140p".
4. "Trivedi R.K"., "Hand book of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II"
5. "McKinney, M. L&Schoch, R.M."-" .Environmental Science System & Solutions, Web enhanced edition.639p"
6. "Anuj Kumar Purwar"- " Environment & Ecology"
7. "C.S.Rao"- " Environmental Pollution Control Engineering"
8. "Khopkar"- " S.M Environmental Pollution Monitoring & Control"
9. "Majid Husain"- " Environment & Ecology Biodiversity, Climate Change and Disaster Management "

#### WEBSITE

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

[www.binils.com](http://www.binils.com)



**1012**

**DIPLoma IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

**www.binils.com**  
V SEMESTER

**ELEMENTS OF  
INTERIOR DESIGN**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012531  
Semester : V Semester  
Subject Title : ELEMENTS OF INTERIOR DESIGN

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours / Week	Hours / Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
ELEMENTS OF INTERIOR DESIGN	4 Hours	64 Hours	25	100*	100	3 Hours

\*Examination will be conducted for 100 marks and it will be reduced to 75 marks.

www.**binils.com**  
Topics and Allocation of Hours

UNIT	Topics	Hrs.
I	INTRODUCTION AND DESIGN THEORY OF INTERIORS	12
II	FUNCTION AND PLANNING	11
III	DETAILING OF SIMPLE HOUSEHOLD FURNITURE	12
IV	FINISHES, FURNISHING & ACCESSORIES	11
V	LAYOUT PLANNING AND DETAILING	11
TEST & MODEL EXAMINATION		7
<b>TOTAL</b>		<b>64</b>

**RATIONALE:**

Student of Architectural Assistantship at the diploma level are expected to know design and execute building interiors. Therefore the basic knowledge of building construction and detailed knowledge of building material is required with the knowledge of this subject the students can help in handling interior project from the concept stage to the project implementation stage. Also this exercise if necessary since the interior are becoming more integral part of architecture and considerable stress is being laid in interior design. Teacher while imparting instruction are expected to explain concept and principle introducing various building finishing materials. The course would be supplemented with literature and sample of materials.

**OBJECTIVES:**

At the completion of the study, the students will be able

- To study about the basics of interiors, furnitures, decorative finishes and its applications.
- To know the layout plans of Interiors.

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**DETAILED SYLLABUS**

**4012531- ELEMENTS OF INTERIOR DESIGN**

Contents: Theory

Unit	Name of the Topic	Hours
<b>I</b>	<b>INTRODUCTION AND DESIGN THEORY OF INTERIORS</b> Importance of Interior Design Environment – Elements of design – Principles of design –Elements and Application of Principles of design in Interiors and their uses in Interior Design	<b>12</b>
<b>II</b>	<b>FUNCTION AND PLANNING</b> Activities and Function - Functional contents of an Interior Environment – Planning inter-relationship of Functional Spaces and Interior Elements – Anthropometrical study – Dimension Standards of Interior Elements - Furniture, Activity and Circulation	<b>11</b>
<b>III</b>	<b>DETAILING OF SIMPLE HOUSEHOLD FURNITURE</b> Floor and Wall Furniture – Materials – Specification – Joinery and finishes. Ready to assemble modular units in Interior design. Simple design of household furniture such as Tables, Chairs, Sofa Sets, Cupboards, Room dividers, built-in Fitments and Detailed Drawing of two types in each for Residence.	<b>12</b>
<b>IV</b>	<b>FINISHES, FURNISHING &amp; ACCESSORIES</b> Various types of Finishes for Walls, Floors and Ceiling. Furnishing – Drapery, Blinds, Upholstery and Household Linen accessories – Artifacts, Paintings, Murals, Sculptures, Plants (Natural & Artificial), Aesthetic and functional Lighting and other accessories, Decorative accessories for Kitchen and Bathroom. - Study on furniture for specific types of interiors like office furniture, children's furniture, residential furniture, display systems, etc.	<b>11</b>
<b>V</b>	<b>LAYOUT PLANNING AND DETAILING</b> (Including Integrated Service Layouts): Layout of floor plan, wall panels, furniture, false ceiling, Air conditioning and Ducting - Residential Spaces and Restaurant- Develop a working drawing for interior design detailing for residential & office spaces, hotel lobbies etc.	<b>11</b>

**TEXT BOOKS**

1. "John F. Pile"- "Interior Design"
2. "Francis D.K. Ching"- "Interior Design Illustrated"
3. "Ahmed Khasu"- "Interior Design"
4. "Premavathy Seetharaman & Parveen Pannu"- "Interior Design & Decoration"
5. "M.Pratap Rao"- "Interior Design Principles & Practice"
6. "Joseph Dechiara , Julius Panero & Martin Zelnik"- "Time Saver Standards for Interior Design & Space Planning (Second Edition)"

**REFERENCE BOOKS**

1. "Anna Hong Rutt"- "Home Furnishing"
2. "David Van Dommalan"- "Designing and Decorating Interiors"
3. "Barbara Bradford Taylor"- "Easy steps to successful Decorating"
4. "Maitland Graves"- "Art of Colour and Design"
5. "Frances M Obst"- "Art of design in Home Living"
6. "Beitler & Lockhart"- "Design for you"
7. "Mary Gillatt" – "Colour your Home"
8. "IS 5533 – 1969 Dimensions of Spaces-Bureau of Indian Standards"
9. "National Building Code of India"
10. "Derek Phillips" "12 Human Lighting in Architectural Design"
11. "Julius Parcero"- "Dimension and Interior Space"

**MAGAZINES:**

1. Inside outside (Business India group)
2. Homes & Gardens
3. Indian Architect & Builders
4. Fountain Head
5. 80 Designs
6. Interiors Today.
7. Interior Design

**WEBSITES**

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

<https://www.architecturaldigest.in/architecture-design/>



**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

**www.binils.com**  
V SEMESTER

**CONTEMPORARY  
ARCHITECTURE  
(ELECTIVE THEORY - I)**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012532  
Semester : V Semester  
Subject Title : CONTEMPORARY ARCHITECTURE

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			Duration
	Hours / Week	Hours / Semester	Marks			
			Internal Assessment	Board Examination	Total	
CONTEMPORARY ARCHITECTURE	4 Hours	64Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

**Topics and Allocation of Hours**

UNIT	Topics	Hrs.
I	19 <sup>TH</sup> CENTURY EUROPE AND AMERICA	11
II	EARLY 20TH CENTURY ARCHITECTURE	12
III	MID 20TH CENTURY ARCHITECTURE	12
IV	20TH CENTURY ARCHITECTURE – INDIA	11
V	POST INDEPENDENCE	11
TEST & MODEL EXAMINATION		7
<b>TOTAL</b>		<b>64</b>

**RATIONALE:**

Contemporary architecture is a form of construction that embodies the various styles of building designs stemming from a wide range of influences. Contemporary architecture cuts away from the modern architecture of the late twentieth century by including eco-friendly features and embracing all kinds of creativity. Aside from employing the different styles and influences, the contemporary architecture uses the latest technology and materials

**NOTE:**

The students are also expected to go through Architecture Journals like Inside – Outside, Interiors Today, Design and Interiors, Architect and builder, Builders Friend etc. They should make scrapbook of relevant brochures.

**OBJECTIVES:**

At the completion of the study, the students will be able to

- Study of evolution of various styles of art and architecture as a response to climate, culture and socio-political conditions by taking examples from Contemporary Architecture.
- Understand fundamental design principles (visual art principles) and resulting architectural expression; appropriate to place and people.

**DETAILED SYLLABUS**

**4012532- CONTEMPORARY ARCHITECTURE**

Contents: Theory

Unit	Name of the Topic	Hours
<b>I</b>	<b>19<sup>TH</sup> CENTURY EUROPE AND AMERICA</b> Introduction to contemporary architecture – industrial revolution – great exhibition – birth to modern architecture – school of taught. New materials and technology. Purpose built buildings for new functions – crystal palace, London, by Joseph Paxton. Wain Wright building. St. Louis. Missouri by alder and Louis Sullivan	<b>11</b>
<b>II</b>	<b>EARLY 20TH CENTURY ARCHITECTURE</b> Rejection of previous styles and introduction of contemporary building styles. Fagus shoe factory by Walter Gropius Johnson wax factory, falling water by F.L. Wright Seagram building by Mies Van De Rohe Ronchamp chapel, Villa Savoye by le Corbusier	<b>12</b>
<b>III</b>	<b>MID 20TH CENTURY ARCHITECTURE</b> New methods of construction – Shell and Folded Plate Roofs – Engineering developments – Developments of Regional styles. Palazzetto del sports, Rome Olympic stadium by P. Luigi Nervi Sydney opera house by John Utzon St. Mary's cathedral by Kenzo Tange Parliamentary complex, Colombo by Geoffrey	<b>12</b>
<b>IV</b>	<b>20TH CENTURY ARCHITECTURE – INDIA PRE INDEPENDENCE</b> Indo Saracenic Architecture - Rashtrapathi Bhavan, Delhi by Edwin Lutyens Senate house, Madras University by Chislom	<b>11</b>
<b>V</b>	<b>POST INDEPENDENCE</b> Chandigarh master plan, High court building by le Corbusier Works of Louis – Is – Khan Kanchenjunga apartments Bombay by Charles Correa, Laurie baker B V doshi - Sangath	<b>11</b>

### TEXT BOOKS

1. "IAG"-“Contemporary Kitchens”
2. "IAG"-“Contemporary Office Furniture (Middle English)”
3. "Bill Riseboro"-“Modern architecture of design”,
4. "Àlex Sánchez Vidiella"-“The Sourcebook of Contemporary Architecture”

### REFERENCE BOOKS

1. "Sir Banister Fletcher". "History of Architecture. 20th Edition".
2. "Percy Brown"-“Islamic Architecture”.
3. "St. Lloyd / H. W. Mhller", "History of Architecture series, Faber & Faber Ltd, London 1986”.
4. "Henristierlin"-“Encyclopedia of world architecture, by Vol. I and II”
5. "Brunozevi" –“Architecture as space”
6. "Mac Milan encyclopedia of Architecture” (4 volumes)
7. "R.nath”, "History of Mughal Architecture” – “Abhinav publications, new delhi”
8. "Peter Collins”, "Changing ideals in modern architecture”
9. "Bill Rise Bero” “modern architecture and design”

### WEBSITES

<https://www.contemporist.com/>

<https://www.alanearchitecturepllc.com/>

<https://www.architecturaldigest.in/>

<https://design-milk.com/>

<https://www.themodernhouse.com/>

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

<https://www.re-thinkingthefuture.com/fresh-perspectives/a1935-10-examples-of-contemporary-vernacular-architecture/>

<https://www.thespruce.com/what-is-contemporary-architecture>



**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

**www.binils.com**  
V SEMESTER

**ARCHITECTURAL  
ACOUSTICS  
(ELECTIVE THEORY - I)**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
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**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012533  
Semester : V Semester  
Subject Title : ARCHITECTURAL ACOUSTICS

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			Duration
	Hours / Week	Hours / Semester	Marks			
			Internal Assessment	Board Examination	Total	
ARCHITECTURAL ACOUSTICS	4 Hours	64 Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

[www.binils.com](http://www.binils.com)  
Topics and Allocation of Hours

UNIT	Topics	Hrs.
I	INTRODUCTION	11
II	PROPAGATION OF SOUND	11
III	BEHAVIOUR OF SOUND	11
IV	NOISE AND CONTROL	12
V	CONSTRUCTION DETAILS	12
TEST & MODEL EXAMINATION		7
<b>TOTAL</b>		<b>64</b>

**RATIONALE:**

Diploma holders in Architectural Assistantship are supposed to construct buildings, Knowledge of building acoustics and its behavior is necessary one. Building acoustics is the science of controlling noise in buildings. This includes the minimization of noise transmission from one space to another and the control of the characteristics of sound within spaces themselves. Building acoustics are an important consideration in the design, operation and construction of most buildings, and can have a significant impact on health and wellbeing, communication and productivity. They can be particularly significant in spaces such as concert halls, recording studios, lecture theatres, and so on, where the quality of sound and its intelligibility are very important.

**NOTE:**

The students are also expected to go through Architecture Journals like Inside – Outside, Interiors Today, Design and Interiors, Architect and builder, Builders Friend etc. They should make scrapbook of relevant brochures.

**OBJECTIVES:**

At the completion of the study, the students will be able to

- Understand architectural acoustics to achieving good speech intelligibility in a theatre, restaurant for railway station, enhancing the quality of music in a concert hall or recording studio, or suppressing noise to make offices and homes more productive and pleasant places to work and live in.

**DETAILED SYLLABUS**

**4012533- ARCHITECTURAL ACOUSTICS**

Contents: Theory

<b>Unit</b>	<b>Name of the Topic</b>	<b>Hours</b>
<b>I</b>	<b>INTRODUCTION</b> Introduction to architectural Acoustics – characteristics and measurements of sound; design criteria of sound for various architectural spaces, Noise criteria curves, acoustical problems.	<b>11</b>
<b>II</b>	<b>PROPAGATION OF SOUND</b> Free propagation of sound – geometrical spreading – air absorption – effect of landscape elements application of these principles in the design of open-air theatre and planning of buildings.	<b>11</b>
<b>III</b>	<b>BEHAVIOUR OF SOUND</b> Behavior of sound in enclosed spaces – principles of geometrical acoustics –Sabine’s formula and its interpretation Auditorium acoustics – design criteria for speech and music – Acoustic design for reverberation control – sound amplification.	<b>11</b>
<b>IV</b>	<b>NOISE AND CONTROL</b> Principles of noise control – noise sources – sound field determination – sound transmission through walls and partitions, Vibration isolation – damping of noise – noise transmission through ducts – planning considerations, General description on the manufacture and properties of acoustical materials – selective behavior of acoustic materials.	<b>12</b>
<b>V</b>	<b>CONSTRUCTION DETAILS</b> Construction details of acoustic treatment on walls, ceiling and floors– floating floor construction – Lecturer halls – seminar hall – auditorium – recording studio.	<b>12</b>

**TEXT BOOKS**

1. “Dr B J Smith”-“ Acoustics and Noise Control”
2. “David Egan”-“Architectural Acoustics”-“J Ross Publishing Classics”
3. “Paul. E Sabine”-“Acoustics And Architecture”
4. “Clifford Melville Swan”-“Architectural Acoustics”
5. “Raj Patel”-“Architectural Acoustics”-“A guide to integrated thinking”

**REFERENCE BOOKS**

1. “Jack E Moore”-“Design for Good Acoustics and Noise Control”
2. “Scott D Snyder”-“Active Noise Control Primer (Modern Acoustics and Signal Processing)”.
3. “Mahavir Singh”-“Noise Control in Buildings: Fundamental and Applications”
4. “F. Alton Everest , Ken Pohlmann”-“ Master Handbook of Acoustics, Sixth Edition “
5. “Pradip Kumar Chakrabarti Satyabrata Chowdhury”-“A Textbook on Waves and Acoustics”

**WEBSITES**

<https://exploresound.org/>

<https://www.acousticgeometry.com/>

<https://www.acousticfields.com/>

<https://www.qacoustics.co.uk/>

<https://overtoneacoustics.com/>

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

<https://www.archdaily.com/>

<https://www.wiley.com/en-us/Architectural+Acoustics+Illustrated>

<https://physicsworld.com/a/acoustics-in-architecture/>



**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

[www.binils.com](http://www.binils.com)  
V SEMESTER

**COMPUTER  
APPLICATION IN  
ARCHITECTURE – II**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012540  
Semester : V Semester  
Subject Title : COMPUTER APPLICATION IN ARCHITECTURE- II

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours/Week	Hours / Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
COMPUTER APPLICATION IN ARCHITECTURE- II	5 Hours	80 Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

Topics and Allocation of Hours

UNIT	Topics	Hrs.
I	FLOOR PLANS & TYPICAL FLOOR PLAN	16
II	ROOF PLAN	16
III	ELEVATIONS (FRONT, REAR & TWO SIDE ELEVATIONS) & SECTIONAL ELEVATIONS	16
IV	HATCHING BLOCKS	16
V	PLOTTING DRAWINGS IN AUTOCAD PRACTICE WITH COMPLETE DRAWING	16
<b>TOTAL</b>		<b>80</b>

**RATIONALE:**

In the present times an Architectural Assistant should be capable of drafting drawings on the computer as most of the Architects lay greater stress on computerized drawings for their ease of drafting, editing, managing and presentation. At the end of the course the students should be able to make 2-D architectural drawings for presentation and construction purposes. The student should get familiar with the latest CAD software.

**GUIDELINES:**

- All the exercises given in the syllabus should be completed and given for the end semester practical examination.
- The external examiners are requested to ensure that a single exercise question should not be given to more than four students while admitting a batch of 30 students during Board Practical Examinations.

**OBJECTIVES:**

At the completion of the study, the students will be able

- To understand the Fundamentals of software to create a basic 2D and 3D drawing in AutoCAD.
- To enable student the techniques and teaches them to be proficient in the use of AutoCAD to make simple geometric forms, rendering, house plan and other presentation techniques involved.
- To understand the tool for the task, the best way to use that tool and how to create new tools to accomplish tasks more efficiently.
- To prepare complete approval drawing for residential building with help of drawing software. (AutoCAD)

**DETAILED SYLLABUS**

**4012540 – COMPUTER APPLICATION IN ARCHITECTURE- II**

Contents: Practical

UNIT	NAME OF THE TOPIC	HOURS
<b>I</b>	<b>FLOOR PLANS &amp; TYPICAL FLOOR PLAN</b> Showing dimensions of all rooms / space, thickness of walls, inner & outer plaster line, door / window marking & their position, widths of flight, landing, tread, stairwell (if any), no of treads deep line in floor, drop line in toilet, kitchen & veranda - showing same as above.	<b>16</b>
<b>II</b>	<b>ROOF PLAN</b> Ghundi, slope & ridge line, rain water pipe, anti siphonage pipe, soil pipe vent pipe, over head tank, ring main, thickness of parapet wall, and staircase with relevant information.	<b>16</b>
<b>III</b>	<b>ELEVATIONS (FRONT, REAR &amp; TWO SIDE ELEVATIONS) &amp; SECTIONAL ELEVATIONS</b> Showing ground level, plinth level, sill level, lintel level, floor level, roof level, their height & total height, height of parapet wall, roof projection (if any) and specification of elevational features - two sectional elevations through staircase, kitchen, toilet, veranda, showing main entrance to staircase, exit from staircase to roof, flights of steps in section and elevation, ground level, floor level, roof level, sill & lintel level, roof / roof parapet height, loft height.	<b>16</b>
<b>IV</b>	<b>HATCHING BLOCKS</b> BHATCH, hatch commands - boundary hatch options: quick tab advance tab - hatching around text traces, attributes, shapes and solids - editing hatch boundary - boundary commands the concept of blocks - converting objects into a block: block - block commands - nesting of blocks - inserting blocks: insert, MINSERT commands - creating drawing files: WBLOCK command - defining block attributes- inserting blocks with attributes – -editing attributes	<b>16</b>

<b>v</b>	<b>PLOTTING DRAWINGS IN AUTOCAD PRACTICE WITH COMPLETE DRAWING</b> PLOT command - plot configuration - pen assignments - paper size & orientation area - plot rotation & origin - plotting area - scale - each student is required to prepare a set of orthographic projections of a building designed by himself/ herself in the part -I second semester in the subject basic design or of any other design approved by the teacher in charge	<b>16</b>
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**EXERCISES:**

1. Draw a center line and foundation detail for an given a double bedroom residence plan.
2. Draw a double bedroom residence plan showing inner & outer plaster line, doors & windows marking to a suitable scale.
3. Draw a site plan for double bedroom residence showing entry, exit, parking, pathway, landscape, building location, water bodies, bore well, sump, septic tank marking to a suitable scale.
4. Draw a apartment building of single bedroom flat showing the details as same as (plate 2).
5. Draw a site plan for apartment building showing entry, exit, parking, pathway, landscape, building location, water bodies, bore well, sump, septic tank marking to a suitable scale.
6. Draw the terrace plan for a (plate1) showing the details of rainwater pipe, overhead tank, parapet wall, headroom details.
7. Draw elevation of (single storey residence) showing the details of ground level, plinth Level, sill level, floor level, lintel level & roof level.
8. Draw elevation of (multi-storey residence) showing the details of ground level, plinth level, sill level, floor level, lintel level & roof level.
9. Draw section of (single storey residence) showing the details of ground level, plinth level, sill level, floor level, lintel level & roof level.
10. Draw section of (multi-storey residence) showing the details of ground level, plinth level, sill level, floor level, lintel level & roof level.
11. Draw a electrical layout for a double bedroom residence.

12. Draw an electrical layout for a apartment building of single bedroom flat.
13. Draw a kitchen plan, section showing the details of cabinets with dimensions.
14. Draw a toilet plan, section showing the details of fixtures, floor trap, and slope line.

### **BOARD EXAMINATION**

#### **ALLOCATION OF MARKS**

Plan	-	30marks
Elevation	-	20marks
Section	-	25marks
Dimensioning-		20marks
Viva-voce	-	5marks

#### **REFERENCES :**

1. "Auto CAD REFERENCES S manual - Autodesk UNC, 2010"
2. "Dana.J.Hepler , Paul Ross Wallach , Donald E.Helper"- "Drafting & Design for Architectural & Construction (Ninth Edition)"
3. "S.S.Bhavikatti , M.V.Chitawadagi"- "Building Planning & Drawing"

#### **WEBSITES:**

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

[http://www.sin.fi.edu/-Computer drafting](http://www.sin.fi.edu/-Computer%20drafting)

<http://www.ccollege.hccs.cc.tx.us/-Comp.graphic>

<https://www.autodesk.in>

<https://www.thesourcecad.com/autocad-tutorials>

<http://www.cadtutor.net/>

<https://static.sdcpublications.com/pdf>

#### **LIST OF EQUIPMENTS ( for a batch of 30 students )**

Computer – 30 Nos

#### **SOFTWARE USED**

Cad Software

**4012540 - COMPUTER APPLICATIONS IN ARCHITECTURE-II**  
**MODEL QUESTION PAPER**

**Duration:3Hours**

**Maximum marks:100**

**ALLOCATION OF MARKS:**

Plan	-	30marks
Elevation	-	20marks
Section	-	25marks
Dimensioning	-	20marks
Viva-voce	-	5marks

1. Draw the working drawing for two bed room residence plan for an area of 1000 sq.ft showing inner & outer plaster lines, doors& Windows marking to a suitable scale with Elevation, Section and Dimensioning and specifications using Auto CAD.

**(BY LOT)**

**NOTE:**

The examiner should prepare minimum of 10-line plans (Area approximately equal to 100 sq.m)



**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

**www.binils.com**  
V SEMESTER

**ARCHITECTURAL  
DESIGN STUDIO - II**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012550  
Semester : V Semester  
Subject Title : ARCHITECTURAL DESIGN STUDIO - II

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours / Week	Hours / Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
ARCHITECTURAL DESIGN STUDIO - II	6 Hours	96 Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

**Topics and Allocation of Hours**

UNIT	Topics	Hrs.
I	DESIGN PROBLEM – 1	48
II	DESIGN PROBLEM – 2	48
<b>TOTAL</b>		<b>96</b>

**RATIONALE:**

Large percentage of diploma holders in Architectural Assistantship find employment with private Architects and also majority of them go for self-employment. Therefore, diploma holders are required to design Institutional and Multi- storied buildings. This course aims at providing practical exercises in designing so as to develop appropriate knowledge and skills in building design. Teachers are expected to show various types of designs of small to medium residential buildings to develop an appreciation of different designs.

**OBJECTIVES:**

At the completion of the study, the students will be able

- To develop space visualization application of materials to simple architectural forms.
- To apply the knowledge gained in other subjects and basic design to design of school and apartment buildings of single/ simple activity.

**DETAILED SYLLABUS**

**4012550 - ARCHITECTURAL DESIGN STUDIO - II**

Contents: Practical

Single level planning in small scale, small span, horizontal movement and simple vertical movement, data collection, case studies, analysis and presentation of studies. Data collection with respect to design and detailing for physically handicapped persons - Concepts and presentation of design with scales models Examples of exercises include.

**DESIGN PROBLEM – 1**

**48 Hrs**

Institutional buildings: Nursery / Primary schools/school for children with learning disabilities Design problem shall deal with planning for small group of children and minor activities for the above and shall include data collection, Literature study, Case study, Conceptual design scheme, Detailed Design and presentation drawings which includes Plan, Elevation, Section, Perspective Views etc.,

**DESIGN PROBLEM – 2**

**48 Hrs**

Multi – storey building: Apartment design / group housing. Design problem shall deal with planning for the above by applying the principles of Intelligent Architecture and shall include data collection, Literature study, Case study, Conceptual design scheme, Detailed Design and presentation drawings which includes Plan, Elevation, Section, Perspective Views etc.,

**NOTE:**

Case study and measured drawing of the building studied (either School or Apartment) can be 50% of the design problem so that the remaining 50% the Student can understand and design the building.

**BOARD EXAMINATION**

**ALLOCATION OF MARKS**

Any one question from Design Problem – I and II - 100 marks. (By lot)

**For Design Problem – I**

Plan	-	25 marks
Elevation	-	20 marks
Section	-	20marks
Site Plan	-	15 marks
View	-	15 marks
Viva –voce	-	5marks

**For Design Problem – II**

Plan	-	40 marks
Elevation	-	20 marks
Section	-	20 marks
Site Plan	-	15 marks
Viva –voce	-	5marks

**REFERENCES:**

1. “De Chiara and Callender”-“Time Saver Standards Building Types”, “McGraw Hill Co.,2<sup>nd</sup>, Edition,1980”.
2. “Edward D.Mills”, “Planning - The Architects Handbook - 10th Edition”-“,British Library C Taloguing in PublishingData,1985”.
3. “Wakita/Linde”,-“The Professional practice of Architectural working, drawing John Wiley & Sons,1984.”
4. “Andrew Alpern”, “Handbook of Speciality Elements in Architecture”-“McGraw Hill BookCo.,1982.”
5. “Julius Panero & Martin Zelnik”-“,Human Dimension and Interior Space, Whitney Library of Design Publication,1979.”
6. “RudollHerg”-“Neufet Architect’s Data”, , “Crosby Lockwood and SonsLtd.,1970”.

**WEBSITES**

<http://www.hamptons.com/freshair>

<http://www.columbiamedical.com/>

<http://www.mgarchitects.com/>

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

**LIST OF EQUIPMENTS ( for a batch of 30 students )**

Drafting Table with stool - 30 Nos

Pin-up board - 1 No

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V SEMESTER

4012550– ARCHITECTURAL DESIGN STUDIO - II

MODEL QUESTION PAPER

Duration: 3 Hrs

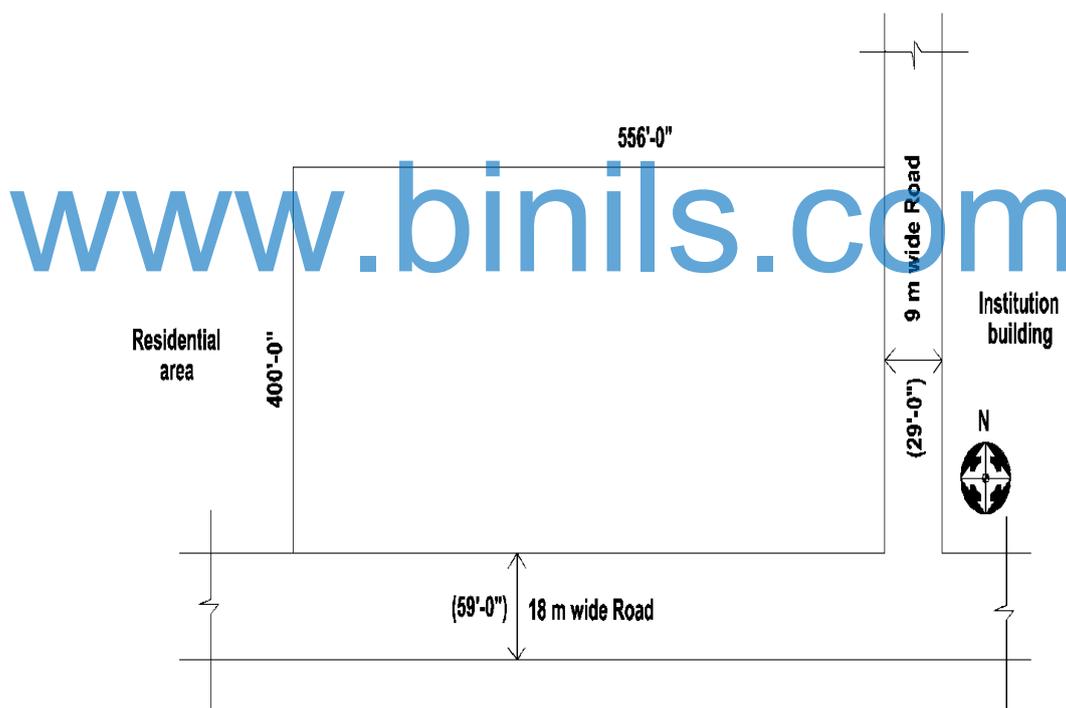
Max. Marks:100

Any one question from Design Problem – I and II - 100 marks. (By lot)

1 Primary School at Trichy:

The rectangular of land which is located in Trichy amongst residential area. (Please refer to the attached plan).

- Frame the requirements according to the modern trends.
- Apply the rules and regulations of local authority
- The built form that would reflect the educational/ children's activities.



**SITE PLAN**

**Drawing Requirements:**

Site plan	-	1:400	-	15Marks
Plan	-	1:100	-	25Marks
Elevation	-	1:100	-	20Marks
Section	-	1:100	-	20Marks
View	-	your own scale-		15Marks

**2 Apartment at Thanjavur:**

The proposed apartment building has to be designed with the following requirements:

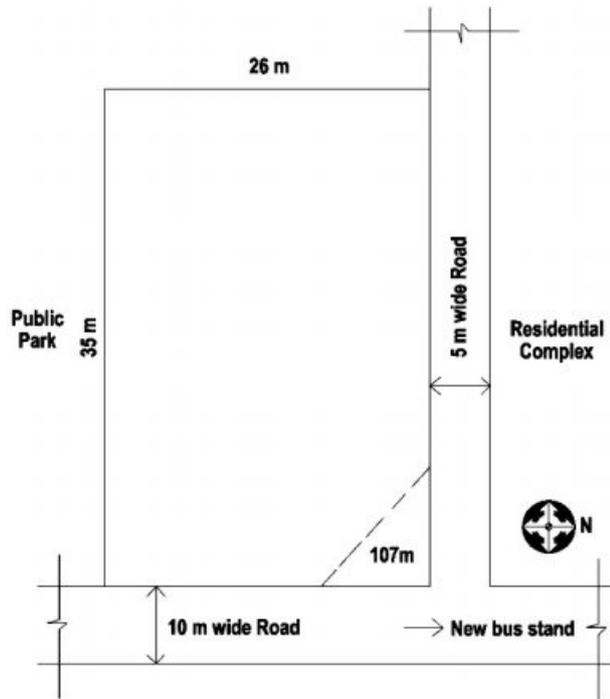
No. of dwelling units	-	8 Nos
Area of each dwelling unit	-	1200 Sq.ft.

- Adequate areas for passages, lobbies, porch, and stair services should be provided wherever necessary.
- Apply the rules and regulations of local authority and also apply the intelligent concepts.

The rectangular piece of land which is located is the New Bus stand area of Thanjavur amongst high rise residential buildings and has a public park situated adjust to it on the south (please refer to the attached site plan).

Front margin (Main Road) - 5m

Side and rear margins - 3m



**Drawing Requirements:**

Site plan	-	1:200	-	15 Marks
Plan	-	1:100	-	40 Marks
Elevation	-	1:100	-	20 Marks
Section	-	1:100	-	20 Marks

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**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

**www.binils.com**  
V SEMESTER

**ARCHITECTURAL  
MODEL MAKING  
(ELECTIVE PRACTICAL – I)**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012561  
Semester : V Semester  
Subject Title : ARCHITECTURAL MODEL MAKING

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours / Week	Hours / Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
ARCHITECTURAL MODEL MAKING	4 Hours	64 Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

**Topics and Allocation of Hours**

UNIT	Topics	Hrs.
I	SOLID MODELLING	11
II	BLOCK MODELLING	11
III	FURNITURE MODELLING	11
IV	BUILDING INTERIOR COMPONENTS	11
V	DETAILED MODEL	20
TOTAL		<b>64</b>

**RATIONALE:**

In Diploma level Architectural Assistantship development of auto motor skills plays a vital role. The auto motor skill development can be achieved by on hand experience in handling various instruments, apparatus and equipment for preparation of architectural models to the various building elements and buildings. This is accomplished by doing architectural models related to building elements and buildings of different types in architectural workshop. Further the students will guide in making architectural models for their project work.

**OBJECTIVES**

At the completion of the study, the students will be able

- To develop architectural ideas and can be used at all stages of design. An architectural model shows the scale and physical presence of a proposed design.
- To create 3-dimensional replica or expression of the design, usually at a scale much smaller than full size. Traditionally, architectural models were made exclusively by hand using materials such as foam board, balsa wood and card.
- To develop a presentation model to explain the project in detail and can be used to exhibit, visualize a final design.
- To understand and apply a variety of three-dimensional model construction process and techniques
- To explore the value of physical models as an integral part of a design process for both academic and professional contexts.

**DETAILED SYLLABUS**

**4012561- ARCHITECTURAL MODEL MAKING**

Contents: Practical

**NOTE: Both drawings and models are to be prepared to all the exercises and evaluated for awarding internal marks.**

Unit	Name of the Topic	Hours
I	<b>SOLID MODELLING:</b> Basic Geometrical shapes – Cube, Cylinder, Cone, Sphere, pyramids, Prism. (Based on development of surface)	11
II	<b>BLOCK MODELLING:</b> <b>Building Modelling</b> –(To express scale proportion and colour) – Watchman cabin, Car shed, Reading room, Snack bar, Cafeteria, Shop, Ice cream parlour.	11
III	<b>FURNITURE MODELLING:</b> Chairs, Sofa, dining table, Cot, Cabinets, Dressing table, wall units, (Built in units), Kitchen units etc.	11
IV	<b>BUILDING INTERIOR COMPONENTS:</b> Staircase, Partition, Ward robe, Room Divider, and Windows	11
V	<b>DETAILED MODEL:</b> A building model to express site, landscape, road, and exterior features.	20

**REFERENCES**

1. “Nick Dunn”-“Architectural model making”
2. “Roark T.Congdon”-“ Architectural model building”
3. “Megan Werner”-“Model making”
4. “Miriam Delaney”-“Studio craft and techniques of architects”
5. “David Neat”-“Model making materials and methods”.

**LIST OF EQUIPMENTS/FURNITURES ( for a batch of 30 students )**

Working Table with chair	-	30 Nos
Pin-up board	-	1 No

**LIST OF PLATES:**

1. Prepare development surface and model for solids cube, cone cylinder and prism, pyramid using Snow white board / mount board. (not for examination)
2. Prepare plan, elevation section and block model for snack bar, cafeteria, and ice cream parlour using mountboard.
3. Prepare plan, elevation section and model for furnitures like sofa, dining table & chair using mount board / snow whiteboard.
4. Prepare plan, elevation and block model for a spiral staircase using mount board.
5. Prepare plan, elevation, section and model for a room divider using mount board/ snow whiteboard.
6. Prepare plan, elevation section and model for a paneled bay window using mount board / snow whiteboard.
7. Prepare plan, elevation section and model for a residential building of area 100 sq.m. With full landscape & exterior finishes using mount board / snow white board.

**BOARD EXAMINATION**  
**ALLOCATION OF MARKS**

<b>Part A:</b> Any one of exercises (by lot) from 2 to 6 that are done in studio and Architectural workshop using snow white board / mount board during the Semester to carry.	<b>35 marks.</b>
<b>Part B:</b> Model of a residential building of area 60 sq.m. With full landscape& exterior finishes using mount board / snow white board to carry.	<b>60 marks.</b>
<b>Viva-Voce:</b>	<b>5 marks</b>
<b>Total:</b>	<b>100 Marks</b>

**Note:** The plan, elevation and section for the Part – B question shall be given to the Students a day before the start of examination.

**4012561- ARCHITECTURAL MODEL MAKING  
MODEL QUESTION PAPER**

**Duration: 3 HRS**

**Max.marks:100**

**PART – A**

- 1 Draw the details of a sofa and prepare model for the same using snow white board. Assume suitable scale and dimensions. (Question is chosen by lot.)

**35 marks**

**PART – B**

2. Prepare the Model of a residential building of area 60 sq.m. With full landscape & exterior finishes using mount board / snow white board.

**60 marks**

**PART – C**

**VIVA-VOCE**

**5marks**

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**1012**

**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP**

III YEAR

**N – SCHEME**

[www.binils.com](http://www.binils.com)  
V SEMESTER

**ELEMENTS OF INTERIOR  
DESIGN PRACTICAL  
(ELECTIVE PRACTICAL – I)**

IMPLEMENTED FROM 2020-2021

CURRICULUM DEVELOPMENT CENTRE

**DIRECTORATE OF TECHNICAL EDUCATION  
CHENNAI-600 025, TAMIL NADU**

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING-TAMILNADU**  
**DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP SYLLABUS**  
**N-SCHEME**

(To be implemented for the students admitted from the year 2020-2021 onwards)

Course Name : 1012: DIPLOMA IN ARCHITECTURAL ASSISTANTSHIP  
Subject Code : 4012562  
Semester : V Semester  
Subject Title : ELEMENTS OF INTERIOR DESIGN PRACTICAL

**TEACHING AND SCHEME OF EXAMINATION**

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			Duration
	Hours/Week	Hours / Semester	Marks			
			Internal Assessment	Board Examination	Total	
ELEMENTS OF INTERIOR DESIGN PRACTICAL	4 Hours	64 Hours	25	100*	100	3 Hours

\* Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

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Topics and Allocation of Hours

UNIT	Topics	Hrs.
I	INTRODUCTION TO THE SUBJECT	10
II	PREPARATION OF AN ALBUM WITH PRESENTATION DRAWINGS OF THE ROOMS IN A RESIDENTIAL HOUSE	27
III	PREPARATION OF AN ALBUM WITH PRESENTATION DRAWINGS OF THE ROOMS IN AN APARTMENT	27
TOTAL		<b>64</b>

**RATIONALE:**

In the present times an Architectural Assistant should be capable of drafting drawings on the computer as most of the Architects lay greater stress on computerized drawings for their ease of drafting, editing, managing and presentation. At the end of the course the students should be able to make 2-D architectural drawings for presentation and construction purposes. The student should get familiar with the latest CAD software.

**GUIDELINES:**

- All the exercises given in the syllabus should be completed and given for the end semester practical examination.
- The external examiners are requested to ensure that a single exercise question should not be given to more than four students while admitting a batch of 30 students during Board Practical Examinations

**OBJECTIVES:**

At the completion of the study, the students will be able to

- Understand the concept and principles of interior design.
- Apply the methods and techniques of interior designing.
- Learn the innovative trends and materials for interior design.
- Prepare album with presentation drawings of the rooms of residential and apartment building.

**DETAILED SYLLABUS**

**4012562 – ELEMENTS OF INTERIOR DESIGN PRACTICAL**

Contents: Practical

UNIT	NAME OF THE TOPIC	HRS.
I	<b>INTRODUCTION TO THE SUBJECT</b> Learning to assess interior space and its organization- The role of functionally in interior design-Layout schemes of living, bed room, study room, toilets and residential house-Application of colour in various elements in interior designing	10
II	<b>PREPARATION OF AN ALBUM WITH PRESENTATION DRAWINGS OF THE ROOMS IN A RESIDENTIAL HOUSE.</b> Plan of each room of a residential house designed in the earlier terms showing the furniture, fixture etc laid out in a functional and aesthetic manner-Elevation of each wall of the above designed rooms-Rendering the above in colour.	27
III	<b>PREPARATION OF AN ALBUM WITH PRESENTATION DRAWINGS OF THE ROOMS IN AN APARTMENT</b> Preparation of one point perspective drawing and rendering with colour of the aforementioned rooms - study finishing materials used in floors, walls, doors windows and furniture - study fittings and fixtures used in the bathrooms and kitchens of a residential house.	27

**EXERCISES:**

1. Design and draw a furniture layout a living room space of an area of 250 sq.ft. with scale (1:25).
2. Design and draw a kitchen space for an area of 220 sq.ft with store area, utility space and breakfast counter with scale of (1:25).
3. Design and draw a furniture layout a master bedroom space of an area of 200sq.ft. with scale (1:25).
4. Design and draw a toilet space of an area of 45sq.ft. with scale (1:20).
5. Draw the elevation and detailing of living room with scale of (1:25).
6. Draw the elevation and detailing of kitchen with scale of (1:25).
7. Draw the elevation and detailing of master bedroom with scale of (1:25).
8. Draw the elevation and detailing of toilet with scale of (1:20).
9. One point perspective view for bed room with colour scheme.
10. One point perspective view for kitchen with colour scheme.
11. One point perspective view for living with colour scheme.
12. One point perspective view for toilet with colour scheme

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**BOARD EXAMINATION**  
**ALLOCATION OF MARKS**

For a given line plan of minimum plinth area 100 Sq.m, draw plan, Elevation, Section and dimension the same. (By lot)

Note: The examiners should prepare minimum of 10 line plans

Plan	-	25	marks
Elevation	-	40	marks
Section	-	20	marks
Dimensioning	-	10	marks
Viva-voce	-	5	marks

**REFERENCES :**

1. "Sherrill Whiton"-“Elements of Interior Design and Decoration”
2. "Seetharaman P"-“Interior Design and Decoration (PB 2019)”
3. "Angelica Lefosse"-“Interior Design: Complete guide on how to design and furnish your home”
5. "Frida Ramstedt"-“The Interior Design Handbook”

6. “Premavathy Seetharaman & Parveen Pannu”-“ Interior Design & Decoration”
7. “M.Pratap Rao”-“Interior Design Principles & Practice”
8. Joseph Dechiara , Julius Panero & Martin Zelnik”-“Time Saver Standards for Interior Design & Space Planning (Second Edition)”

**WEBSITES:**

<https://nptel.ac.in>

<https://ndl.iitkgp.ac.in>

**LIST OF EQUIPMENTS/FURNITURES ( for a batch of 30 students )**

Drawing Table with stool                    -        30 Nos

Pin-up board                                    -        1 No

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**4012562 - ELEMENT OF INTERIOR DESIGN PRACTICAL  
MODEL QUESTION PAPER**

**Duration: 3 Hours**

**Maximum marks:100**

**ALLOCATION OF MARKS:**

Plan	-	25 marks
Elevation	-	40 marks
View	-	20 marks
Dimensioning-		10 marks
Viva-voce	-	5 marks

1. Draw and design the Master bedroom for an area of 200 sq.ft with interior layout and detailing

Drawing requirements - scale 1:25

Plan - 25 marks

Elevation (4 Nos) - 40 marks

View - 20 marks- proportionately

Dimensioning - 10 marks

Viva-voce - 5 marks