

### स्वामी रामानंद् तीर्थ मराठवाडा विद्यापीठ

नादेड ४३१६०६ (महाराष्ट्र)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.

Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

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जा.कं.शैक्षणिक / 01 / अभ्यासकम / 2015 – 16 / 166 3

दि: 04/11/2015

प्रती. मा. परीक्षा नियंत्रक, .प्रस्तुत विद्यापीट.

विषय : Bachelor of Architecture Fourth Year अभ्यासकमा बाबत.... महोदय.

उपरोक्त विषयास अनुसरून आपणास कळविण्यात येते की, प्रस्तुत विद्यापीठातील शारदा भवन एज्युकेशन यांचे ॲकॅडेमी ऑफ ॲकींटेक्चर, नांदेड येथे राबविण्यात येणा—या Bachelor of Architecture Fourth Year या अभ्यासकमास शैक्षणिक वर्ष 2015-16 पासुन लागु करण्याकरिता मा. विद्या परिषदेच्या वतीने मान्यता प्रदान केली आहे.

तरी ही बाब पुढील कार्यवाहीस्तव सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

आपला विश्वास्

संचालक महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव:

प्राचार्य, ॲकॅडेमी ऑफ ॲकीटेक्चर, नांदेड . कुलसचिव (निवडणूक कक्ष), यांचे कार्यालय, प्रस्तुत विद्यापीठ. 1)

उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ. 2)

सहा.कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीट. 3)

सहाः पुलराविष, प्रस्तुत विद्यापीठ. (सदरील परिपंत्रक व अभ्यासकम विद्यापीठाच्या 4)

संकेतस्थळावर प्रसारित करावे.) 5)

दिनांक 24.10.2015 रोजीचे Dr. Mishra Rajiv, Principal, Sir J J College of Architecture गांच्या इमेल पत्राचे अवलोकन व्हावे.

प्रस्तुत विद्यापीठातील शारदा भवन एज्युकेशन यांचे ॲकॅडेमी ऑफ ॲकीटेक्चर, नांदेड येथे राबविण्यात येणारा (Bachelor of Architecture) बॅचलर ऑफ अर्किटेक्चर या विषयाचा चतुर्थ वर्षाचा अभ्यासकम Dr. Mishra Rajiv, Principal, Sir J J College of Artitecture, 78/ 3, Dr. DN Road Mumbai शैक्षणिक वर्ष 2015—16 पासुन लागु करण्याच्या दृष्टिने सादर केला आहे.

या पुर्वि (Bachelor of Architecture) बॅचलर ऑफ अर्किटेक्चर या विषयाचा प्रथम व व्दितीय आणि तुतिय वर्षांचा अभ्यासकम तयार करतांना अभ्यासकम समितीचे अध्यक्ष Dr. Mishra Rajiv, Principal, Sir J J College of Architecture, 78/3, Dr. DN Road Mumbai, सदस्य Professor Puskar Kaninde, Pune. Mob. 9423582528 आणि Prof. Ujwala Chakradev, Nagpur, Mob. 9890601461 अभ्यासकम तयार करण्यात आला आहे.

सदरील (Bachelor of Architecture) बॅचलर ऑफ अर्किटेक्चर या विषयाचा चतुर्थ वर्षांचा अभ्यासकम अध्यक्ष Dr. Mishra Rajiv यांनी सर्व सदस्यांस चर्चा करून संचालक, ॲकॅडेमी ऑफ अॅर्कीटेक्चर,, आय.टि.एम.बिल्डींग, व्हि.आय.पी. रोड नांदेड यांना ईमेल व्दारे सादर केला आहे.

तरी उपरोक्त पत्रासोबत जोडलेला Bachelor of Architecture Fourth Year अभ्यासकमास शैक्षणिक वर्ष 2015-16 पासुन लागु करण्याच्या दृष्टिने मा. विद्यापरीषदेच्या वतीने मान्यतेस्तव आपल्या अवलोकनार्थ सादर

मा. तम कुलसचिव. मार्भारमा कि किफारम करते थी हैं।

मा. संचालक (मिनिनेप)
का, माल्यापत् सार्य क्रिक्टा

# SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Syllabus for Bachelor of Architecture

Program: B. Arch.

Course: Bachelor of Architecture

Fourth year

(Semester VII & VIII)

(As per Credit Based Semester and Grading System With effect from the academic year 2015- 2016)

	Swami Ramai Teaching sche	and recritive	D Arc	h Course	Semester	.VII	- 1 an an an		
	Teaching sche	me for Fourth	year B. Aic			I	Examination s	cheme	
			Teaching sc	heme	Term	pract	Theory	Total	CREDIT
Code		- Hours	hours	total	work	Exam.	100	250	10
no. 471	Architectural Design VII	Nil	108	108	100	Nil	100	125	05
472	Town planning I	48	Nil	48	25		100	225	09
	Architectural Building Const.&	24	48	72	75	50		-	-
473	materials VII Theory and Design structures VII	48	Nil	48	25	Nil	100	125	05
475	Professional Practice I	48	Nil	48	25	Nil	100	125	05
476	Building Bye - Laws & Code Of Practices	48	Nil	48	25	Nil	Nil	25	1
477	Interior Design	Nil	48	48	25	50	Nil	75	03
478	Research In Architectural Skills	48	Nil	48	25	Nil	Nil	25	1
479	Elective VII	Nil	48	48	50	Nil	Nil	50	02

Notes: Theory, internal, sessional work, and external viva are considered as separate heads of passing.

Total marks for the examination = 1025

Minimum marks for passing the examination:

Internal exam has to be conducted at college level

Internal: 50%

External & theory: 40%

Each period shall be of 50 minutes duration and each semester shall be consist of 90 days of teaching programme.

The college is required to arrange the time table as per semester and as per the teaching scheme prescribed.

### ARCHITECTURAL DESIGN VII

Subject Code No.: 471

Lecture Hours : Nil

Studio Hours: 09-108

Total: 09 per week - 108

Credits: 10

Term work:100 Marks

Practical exam: 50

Theory exam: 100(12 hrs.)

In two days (6 hours per day)

Total: 250 Marks

Aim:

To explore the design and form of building typologies that are the result of pressure on urban and economics, technology & ecology.

### Objectives:

- To create an awareness with regard to the design of green buildings and sustainable architecture.
- To inculcate the importance of services integration and construction in spatial planning in the context to design of high rise buildings and service intensive buildings.
- To explore computer aided presentation techniques including 2D & 3D drawings with walkthrough and models as required.

### Syllabus:

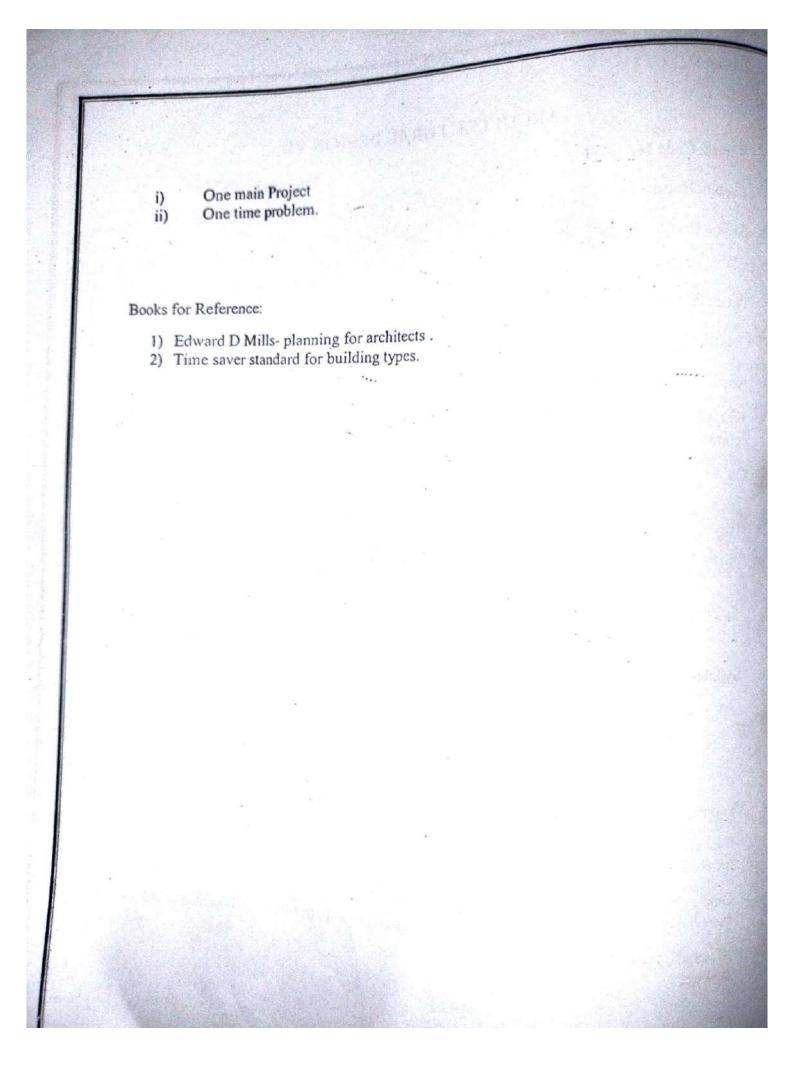
 Scale & Complexity – advanced & complex problems including large scale multistoried buildings & complexes for residential/commercial/institutional/mixed use in an urban context with focus on visual characteristics, service integration and sustainable practices

Examples of projects included - Airport, Bus terminal, Railway Station, Cinema complex,

Exhibition Hall, Indoor sports complex, and Campus planning. Display of competence in the application of knowledge gained from the following will be an essential

essential requirement for all the design projects.

Materials, construction, structures, theory/ fundamentals of Architecture Science and Behavioral science.



### TOWN PLANNING

Subject Code No.: 472

Lecture Hour: 04-48

Studio Hour: Nil

Total: 04 per week-48

Credits: 5

Term Work: 25Marks

Practical Examination: Nil

Theory Examination: 100 (03 Hrs)

Total: 125 Marks

### Aim:

To provide an overview of the vocabulary of human settlements while looking at planning concepts and processes in urban & regional planning and urban renewal.

### Objectives:

- To introduce the students of human settlements and the classification of human settlements.
- To outline the form and structure and illustrating through case studies.
- To familiarize the students with modern concepts of settlement planning.
- · To outline the scope of urban planning, urban renewal and regional planning and the various plans to be prepared.

### Syllabus:

Unit I: Evolution of planning, objects, origins & principles of town planning, growth of towns.

Site and situations, major functions of city, city forming and city serving functions, the relationship between urban and rural areas, problems faced by a typical city.

Unit II: Surveys: types and uses, necessity, fringe area, suburbs

Unit III: Slums: causes, effects, prevention of slum formation, open plot scheme, the Indian

Unit IV: Garden city movement, linear city, the neighborhood concept. Basic principles of regional planning, satellite towns. land use.

Unit V: Regional plans, master plans, Zonal development plan, local development plan and their

components. Implication of 74th amendments & its objectives.

### Books for reference:

- 1) Town planning by S.C. Rangwala 3) Urban and regional planning, practice & law by - Diwan & Kopardikar.

## ARCHITECTURAL BUILDING CONSTRUCTION AND MATRIALS VII

Term Work: 75 Marks

Total: 225 Marks

Practical Exam:50 Marks

Theory Examination: 100 (04 Hrs)

Subject Code No.: 473

Lecture Hour: 02-24

Studio Hour: 04-48

Total: 06 Per Week - 72

Credits: 9

Aim: --

This course is devised to provide an understanding of types of windows, roofs, precast units. Methods Of Scaffolding & formwork.

### Objectives:--

- · To understand both in general and detail the methods of construction of types of windows by using different materials
- · To understand both in general and in detail the methods of construction of different types of roofs.
- · To understand the basic principles of precast walls, slabs, beams, walls.

### Syllabus:--

Unit I: windows: Bay window, Skylight window, Corner window, Dormer window.

Unit II: Roofs: Coffer slab, Shell roof, Barrel vault.

Unit III: Precast: Walls, Slabs, beams, columns.

### B) MATERIALS:--

### Unit I: Shoring & scaffolding:

- A) Shoring definition, raking shore, flying shore, dead or vertical method. B) Underpinning: Pit method, Pile method.
- C) Scaffolding: Definition, Types in detail.

### Unit II : Formwork:

Introduction, requirements.

- Shuttering for columns. i)
- Shuttering for beam & slab floor. ii)
- Formwork for stairs. iii)
- Formwork for walls. iv)

### TERM WORK:--

At least 6 to 8 drawing sheets to cover on chapter 1,2,3 & notes on materials to be

#### NOTES:--

Students should be encouraged to do market survey of the materials as stated above. At least two site visits on construction sites to impart practical knowledge.

### Weightage of marks:--

Construction 70%

Material 30%

- 2) Barry: construction of building:vol 1&2
- 3) Bindra arora: building construction
- 4) building construction by B.C. Punimia.

## THEORY AND DESIGN OF STRUCTURES VII

Term work; 25 Marks

Practical exam: Nil

Theory exam: 100 Marks(03 Hrs)

Total: 125 Marks

Subject Code No: 474

Lecture Hours: 04-48

Studio Hours: Nil

Total: 04 Per Week -48

Credits : 5

#### Aim:

The course is structured to teach building structural systems & to make the students understand the theory behind the structural forms but they are not expected to solve numerical problems.

### Objectives:

- To inform the students about the recent development in structural form.
- · To increase the students ability to identify the structural forms suitable for architectural expression.
- · The students are expected to analyze and understand the nature of stresses that are developed in the major elements of advanced type of structure.

#### Syllabus:--

### UNIT I : Design of R.C.C. Framed structure :

The students are expected to design a two storied R.C.C. framed structure with all calculations as per limit stress method.

### UNIT II : Pre stressing - Definition:

Principles of Pre stressing, pre tensioning and post -tensioning. Materials of pre stressing, systems of pre stressing – applications and uses stresses of pre stressed concrete members.

### UNIT III: SHELLS:

Definition: Various forms & classification of shells. Advantages & disadvantages. Preformed shells- Cylindrical shells, Hyperbolic paraboloids, free forms.

### UNIT IV : Prefabrication :

The concept - principles - prefabrication system for buildings.

### UNIT IV : Cable structures :

Simply curved suspended roofs, combination of cables and struts. The students are encouraged to do case studies of advanced structural forms and make a presentation.

### TERMWORK:

- 1) To design a two Storied R.C.C. framed structure with all calculations viz. footings, columns, plinth beams, floor beams, slabs etc.
- 2) Written notes on the topic as given in Unit II to Unit V without any calculations .case study presentation is compulsory.

- 1) Structure & form in modern architecture Crasby lockwood & sun Ltd. London 1962.
- Michaels Leonard Contemporary structures in Architecture 1950.
- 3) Felix Candella Architecture and structuralism 1963.
- 4) M.M. Ratwani & V. N. Vazirani Analysis of structures.

### PROFESSIONAL PRACTICE I

Term work; 25 Marks

Practical exam: Nil

Theory exam: 100 Marks(03 Hrs)

Total: 125 Marks

Subject Code No: 475

Lecture Hours: 04-48

Studio Hours : Nil

Total: 04 Per Week -48

Credits : 5

Aim:

To expose the students to issues concerning architectural practice. Details of various parts of building including interiors with materials .

### Objectives:

To enable the students to understand the issues of professional practice. To expose the students to various professional bodies and their note in professional practice in India.

To expose the students on some of the important legislations concerning architectural practice in

Syllabus:--

### UNIT I: Tender:

Its meaning and significance invitation to tender - private invitation in public notice and negotiations. Tender notice and its characteristics opening of tender. Acceptance of tender. Types of Tenders characteristics, advantages & disadvantages of various types of tender.

### UNIT II : Contract:

General principles. The articles of agreement and appendix. Definition & scope of some of the

### UNIT III: Scope of contract:

Contractor's Duties & liabilities Architects Duties & liabilities. Determination of contract,

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### UNIT IV : Architects Act 1972 :

Architect Act 1972 and its implications, Council of architecture and its role. The Indian Institute of Architect & its role. Code of Professional conduct as laid down by council of architecture and

### UNIT V : Architectural competitions :

Purpose of Architectural competitions . Council of architecture guidelines on Architectural competitions. Types of competition. Single stage competition & two stage competition.

Social responsibilities of architects . Architect & office & its management . Location of office, organization structure, responsibilities towards employees, consultants & associates elementary accounts, tax liabilities. Filling of records, correspondence & drawings, presentation in meetings, recording minutes of meetings.

### TERMWORK:

Notes on the above topics to be submitted in a file to be signed by the Lecturer periodically . A small report to be prepared by each student after visiting . Architect's office.

- 1) Architects Act 1972
- Publication of Hand of Professional Practice by IIA
- 3) Professional practice Roshan Namavati.
- 4) Architectural practice & procedure. Ar. V.S. Apte.

### UNIT IV : Architects Act 1972 :

Architect Act 1972 and its implications, Council of architecture and its role. The Indian Institute of Architect & its role. Code of Professional conduct as laid down by council of architecture and

### UNIT V : Architectural competitions :

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- Professional practice Roshan Namavati.
- 4) Architectural practice & procedure. Ar. V.S. Apte.

## BUILDING BYE LAWS & CODE OF PRACTICES

Term work; 25 Marks

Subject Code No: 476 Practical exam: Nil

Lecture Hours: 04-48 Theory exam: Nil

Studio Hours: Nil Total: 25 Marks

Total: 04 Per Week -48

Credits: 1

Aim:

To make students understand the codes and regulations to be applied to a building projects.

Objectives:

To provide an introduction to the codes and Bye - Laws applicable to building projects.

To understand the importance & necessity of Building Bye - laws.

To understand the impact of building bye-laws on built environment.

Syllabus:-

UNIT I: Introduction to building codes and norms:

Need & nature of building codes, standards and regulations, overview of basic terms, nature of building codes in special regions like heritage zones, air funnels, environmentally sensitive zones, disaster prone regions, coastal zones, hilly areas, etc.

UNIT II: Study of building regulation:

Overview and administrative processes for obtaining Building permits at various stages, General Land Use, building classifications & permissible uses, Tenement Densities.

UNIT III : Floor Space Index :

Norm for interior & exterior open spaces; set backs & margins, norms for building projections in open spaces, guideline for open green areas.

### UNIT IV: Norms For Vehicular Areas:

Means of access, norms for access widths for various types of buildings, requirements of parking spaces, standards for turning radius, access to service areas.

### UNIT V: Norms For Fire Protection:

Overview of fire protection norms for various building classifications, norms for fire exit ways and building material, concept of fire, doorways, stairways, passages & corridor, fire escapes.

### UNIT VI: Norms For Building Services:

Norms for lighting and ventilation, introduction to basic terminologies, components of daylight factor, general principles of openings for good lighting, consideration in artificial lighting, general principles for natural & mechanical ventilation, overview of norms for acoustical &

### UNIT VII: Requirements For Fart Of Buildings:

Plinth, habitable roomS, kitchen, wet areas, mezzanine, store room, elevated parts like, chimneys, parapets etc. Norms for ventilation, ducts for toilets, norms for open to sky courtyards

### UNIT VIII: Norms For Subdivision Of Land:

Minimum plot area, compulsory open spaces, Maximum building construction in open spaces. width of road according to length.

### UNIT IX: Introduction to local building Bye - Laws:

Study of local administrative provisions for obtaining building permits, bye - laws of M.I.D.C. factory Inspector, pollution control board, CIDCO, etc.

- National building code of India 1970& 2005 i)
- Buch, N. Mahesh Planning the Indian city Khosła R.K. – Urban & Rural development in India, Delhi Indian Publishers & ii)
- in) Distributors
- Local Bye- Laws. iv)

### INTERIOR DESIGN

Subject Code No: 477

Lecture Hours: Nil

Studio Hours: 04-48

Total: 04 Per Week -48

Credits: 3

Term work; 25 Marks

Practical exam: 50

Theory exam: Nil

Total: 75 Marks

#### Aim:

The objective of the course is to create awareness and exposure to interior designer a discipline that is closely related to the field of architecture and supplementing it. It would offer a sedimentary knowledge and overview of the various aspects of interior design.

### Objectives:

- To introduce the vocabulary of Interior Design.
- To familiarize the students with an overview of interior & furniture design and design movements through history.
- To inform the various components of interior spaces & treatment & finishes for the same.
- To familiarize the students with the various components of interior design like lighting, landscaping and furniture.

### Syllabus:--

UNIT 1: Designing the size and form of Interior spaces using user-activity analysis & anthropometrics. The effect of enclosure fenestration, color & lighting on perception of space.

Application of scale, proportion to enhance the quality of space.

UNIT II: Two Interior schemes of different function type: residential & commercial aat

UNIT III: Decorative materials for ceiling, walls, floors, drapery & upholstery for openings & furniture respectively and matching them with overall color schemes and composition . sources Term work :

- 1) Interior furniture layout of residential premises viz: living room, bed room, dining room, & kitchen . Specification for materials used for furniture , flooring ceiling etc.
- 2) Interior layout of commercial premises viz: shops, offices, banks, showrooms etc. Any

- Ching Francis Interior design Illustrated van nostrand Reinhold, London 1987 i) ii)
- Rao M. Pratap Interior Design principles & practice 3<sup>rd</sup> Ed. Std. publication 2004. iii)
- Kurtich, John and Eakin Garret Interior Architecture Van Nostrand Reinhold New

## RESEARCH IN ARCHITECTURAL SKILLS (PROJECT)

Term work: 25 Marks

Practical exam: Nil

Theory Exams: Nil

Total: 25 Marks

Subject Code No: 478

Lecture Hours: 04-48

Studio Hours : Nil

Total: 04 Per Week -48

Credits :1

#### AIM:

The course provides students with a framework to understand some emerging concepts in Architecture & Projects of design complexity & equip the students with adequate architectural design research methods for the realization of their concept. During the course of study, the subject of the thesis is developed & the project articulated.

#### OBJECTIVE:

To impart knowledge to the students on the tools & methods needed to handle a design project of reasonable complexity.

#### COURSE:

UNIT I: Introduction to architectural thesis project. Selection of topics for architectural design thesis, design thesis topics based on building typologies, preparation of synopsis, methodology of design thesis.

UNIT II: Emerging concepts in Architecture due to changes in sōcial, economic, technological variables. Review of projects of design complexity, involving themes, sub-themes & architectural expressions.

### UNIT III: Research In Architecture

Tools & methods required to handle a design projects. Scientific methods of research with special emphasis on architectural research methods. Architectural enquiry, visual observations, interpretation of data.

UNIT IV: THESIS REPORT WRITING & PRESENTATION

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Formats for presentation of data, case-studies & analysis.

Formats for presentation of thesis design - media appropriate in the architectural profession such as two dimensional drawings, physical models, three dimensional computer models.

Techniques in report writing, presentation of contextual information relevant to interpretation of the data collected, reporting the design development from concept to design solution explain the relation of the design to existing knowledge on the topic in the form of coherently written thesis report. The inputs to the students on various design thesis topics would be in the form of expert / guest lectures. Each student in consultation with the faculty shall choose a thesis topics necessary data, review literature on the chosen topic & present a written paper at the end of the semester.

### ELECTIVE VII

Subject Code No: 479

Lecture Hours: Nil

Studio Hours: 04-48

Total: 04 Per Week -48

Credits : 2

Term work; 50 Marks

Practical exam: Nil

Theory exam: Nil

Total: 50 Marks

Seminar on any Architectural topic with slides, spiral reports and required presentation sheets.

( students should make two copies of report one for library and one for student )

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	Teaching	scheme for Fourth	year B. Arch	Course S	nded	311		110		
Code no.	Subject	xamination s								
481	Professional Training 1	Hours	Training Period	Total	Term work	pract Exam.	Theory	Total	CREDITS	Duration
		100	WEEKS	WEEKS	50	250	Nii	300	12	

Notes: Theory, internal, sessional work, and external viva are considered as separate heads of passing.

Total marks for the examination = 300

Minimum marks for passing the examination:

Internal exam has to be conducted at college level

Internal: 50%

External & theory: 40%

Daily report signed by architect should submit after completion of training . Office hours should be minimum 8 hours or as per the office timings.

The college is required to arrange the time table as per semester and as per the teaching scheme prescribed.

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### PROFESSIONAL TRAINING

Subject Code No: 481

Lecture Hours: Nil

Period Of Training : 12 Weeks

Credits : 12

Term work: 50 Marks

Practical exam: 250

Theory exam: Nil

Total: 300 Marks

#### Aim:

To expose students to the daily realities of an architectural practice through 2 semesters of intensive professional training.

### Objectives:

- To facilitate an understanding of the evolution of an architectural project from design to execution.
- To enable an orientation that would include the process of development of conceptual ideas, presentation skills, involvement in office discussions, client meetings, development of the concepts into working drawings, tendering procedure, site supervision during execution and co-ordination with the agencies involved in the construction process.

The training programme would be done in the office approved by the institution and in firms registered with Council Of Architecture for at least 10 years .

The progress of Professional Training shall be assessed by a jury at the end of the training period. It shall be assessed through submission of Log books supported by visual documents maintained by students every month along with the progress report from the employer/s of Trainees.

The students will be evaluated based on the following criteria:

- a) Adherence to time schedule. Discipline.
- b) Ability to carry out the instruction on preparation of schematic drawing.
- c) Ability to work as part of a team in an office.
- d) Ability to participate in client meetings and discussions.
- e) Involvement in supervision on project site.
- f) Additional work as required by the architect giving training. His philosophy ,thoughts, teachings, views etc.

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