

UNIVERSITY OF MUMBAI

No.UG/ 282 of 2006.

CIRCULAR :-

A reference is invited to the Ordinances, Regulations and Syllabi relating to the Bachelor of Architecture degree course (B.Arch.) vide Paragraph No.165 and to this office Circular No.UG/366 of 2005 dated 8th September, 2005 and the Principals of the affiliated colleges in Architecture are hereby informed that the recommendation made by the Ad-hoc Board of Studies in Architecture at its meeting held on 14th March, 2006 has been accepted by the Academic Council at its meeting held on 12th May, 2006 vide item No.4.9 and subsequently approved by the Management Council at its meeting held on 16th June, 2006 vide item No.6 and that in accordance therewith the syllabus for the Second Year, Third Year, Fourth Year and Final Year B.Arch. degree course (Interior Design) is as per Appendix and that the same has been brought into force with effect from the academic year 2006-2007.

Further that in exercise of the powers conferred upon the Management Council under Section 54(1) and Section 55(1) of the Maharashtra Universities Act 1994, it has made the Ordinances 5617, 5618, 5619, 5620, 5621, 5622, 5623, 5624, 5625, 5626, 5627, 5628 and 5629 and Regulations 5417, 5418, 5419, 5420, 5421, 5422, 5423, 5424, 5425, 5426, 5427, 5428, 5429, 5430, 5431 and 5432 relating to the Second Year, Third Year, Fourth Year and Final Year B.Arch. degree course (Interior Design) is passed as per Appendix and that the same has been brought into force with effect from the academic year 2006-2007.

MUMBAI-400 032

28th July, 2006

B. C. Patha
for REGISTRAR

To,

The Principals of the affiliated colleges in Architecture

A.C/4.9/12.05.2006

M.C.6/16.06.2006

No.UG/ 282 -A of 2005, MUMBAI-400 032 28th July, 2006

Copy forwarded with Compliments for information to :-

- 1) The Dean, Faculty of Technology,
- 2) The Ad-hoc Board of Studies in Architecture.

U. S. Patha
for REGISTRAR
... 2/-



UNIVERSITY OF MUMBAI



**ORDINANCES, REGULATIONS
AND SYLLABUS
FOR THE
BACHELOR OF ARCHITECTURE
(INTERIOR DESIGN)
DEGREE COURSE
SECOND YEAR, THIRD YEAR, FOURTH
YEAR AND FINAL YEAR**

(With effect from the academic year 2006-2007 and thereafter)

Introduction

The Ad-hoc Board of studies in Architecture at its meeting held on 28th April, 2005, resolved that B.Arch (Interior) Course to be a Five Year Degree Course framed Independently with all Subjects from the present B.Arch Syllabus covered fully and by adding 25% load, as prescribed by Council of Architecture devoted completely to Interior Design which is over and above the regular B.Arch Curriculum.

A Sub-Committee of Ad-hoc Board of studies for drafting the Interior Design Syllabus was formed comprising of Ar. J.C.Tipnis (Convener), Ar. Nitin Killawala, Ar. Pranav Bhatt, Ar. Smt Radha Sinha and Ar. Dhiraj Salhotra to look in to the same and to prepare a draft Syllabus to be presented to the University of Mumbai.

The Sub-Committee reviewed the current B.Arch Syllabus and after detailed deliberations on its format suggested that the additional aggregate load of 25% should be distributed uniformly over First Four Years only. This was done with a view that the students of Final Year of B.Arch (Interiors) and B.Arch could appear for Final Year examination with similar work load, while ensuring that specialized subject of Interiors for B.Arch (Interior) students was dealt with at a suitably advanced level by the Fourth Year itself. It was also envisaged that this pattern would enable enough time for all the students of Final year to focus on Architectural Professional Practice and Training, which happens to be the main architecture stream, while specialization could be an additional qualification. The B.Arch (Interior) specialization syllabus is designed with the focus on Residential Interiors during the formative phase and Commercial Interiors at Advanced Level. It tackles Technical issues of Furniture Design and Working-Drawing along with development of Skills through Seminar Project Study and Interior Professional Management. The horizontal and the vertical integration of all Subjects have been achieved by maintaining equilibrium between Workload, Teaching and Examination Scheme within necessary framework. Ordinances and Regulations relating to the Degree of Bachelor of Architecture with Interior Design with effect from 2006-07 onwards

Degree of Bachelor of Architecture with Interior Design

0.5617 The course shall be termed Bachelor of Architecture with Interior Design

0.5618 The course leading to the Degree of Bachelor of Architecture with Interior Design shall be a Five Year Full time Course on Yearly Pattern

0.5619 There shall be an examination at the end of each Year except for the Fifth Year, where there will be separate examinations for the First Term (Part I) and the Second Term (Part II). A candidate for the Degree of Bachelor of Architecture with Interior Design exam will be required to pass all Annual Examinations held at the end of each year by the prescribed authority mentioned hereafter.

STAGE- I

- (i) The First Year examination in Architecture with Interior Design will be called the First Year examination in Architecture with Interior Design;
- (ii) The Second Year examination in Architecture with Interior Design will be called the Second Year examination in Architecture with Interior Design;
- (iii) The Third Year examination in Architecture with Interior Design will be called the Third Year examination in Architecture with Interior Design;

The First Stage mentioned above must be completed within Five years of taking admission to the Bachelor of Architecture with Interior Design Course

STAGE- II

- (i) The Fourth Year examination in Architecture with Interior Design will be called the Fourth Year examination in Architecture with Interior Design;
- (ii) The Fifth Year (Part I and Part II) examination in Architecture with Interior Design will be called the Fifth Year examination in Architecture with Interior Design (Part I and Part II);

0.5620 The Bachelor of Architecture with Interior Design* will not be conferred upon the candidate unless the candidate has passed in all the Theory papers, External viva voce and all internal subject heads (Sessional Work) of passing prescribed for each year's examinations in accordance with the provisions relating to each year's examinations.

Once the Sessional Work of a candidate has been submitted for examination and been marked as passed (as directed by the Principal to his satisfaction), the marks shall be carried over to a subsequent examination. A candidate whose marks in Sessional Work are thus carried over shall be eligible for a class.

** The marks obtained for the Sessional Work shall be based on the candidate's day to day work and/or his/her performance at the various periodic tests and assessments. The Sessional Marks so obtained shall be sent directly to the University by the Principal/ Head at the end of the academic year before the commencement of the Annual Examinations. Examiners in Theory and External viva voce shall have no access to these marks.*

SECOND YEAR ARCHITECTURE WITH INTERIOR DESIGN

O. 5621 A candidate for being eligible for admission to the Second Year of the Bachelor of Architecture with Interior Design Course of this University must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for the First Year Architecture with Interior Design.

O.5622 A candidate for being eligible for the Second Year Architecture with Interior Design Examination of this University:

- a) must have passed the First Year Architecture with Interior Design Examination
- b) must have kept satisfactory attendance for two academic terms of the Second Year
- c) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for Second Year examination.

R. 5417 To pass the Second Year Architecture with Interior Design examination the candidate must obtain

40% of the full marks in Theory papers,

50% of the full marks in External viva voce, and

50% of the full marks in all internal subject heads (Sessional Work) of passing

However, the candidate who has failed in some Theory papers or some External viva voce, but has obtained passing marks in other Theory papers and other External viva voce and in *all* Sessional Work, shall at his/her own option be excused from appearing in the Theory papers or External viva voce in which he/she has passed, and the marks obtained in the Theory papers and External viva voce and Sessional Work in which he/she has passed shall be carried over to the subsequent examination.

R.5418 Those successful candidates who have obtained 55% of the total marks obtainable in the examination taken at one sitting only shall be placed in the Second Class. Those successful candidates who have obtained 60% of the total marks obtainable in the examination taken at one sitting only shall be placed in the First Class. Those candidates passing the examination of the Second Year at one and the same sitting only shall be eligible for the award of prize, medal or scholarship.

R.5419 The candidates shall be examined in the following subjects as per the examination scheme of the Second Year Examination in Architecture with Interior Design which will be conducted by the college affiliated to this University.

R. 5420 The following are the syllabi in various subjects of the Second Year of Architecture with Interior Design:

THIRD YEAR ARCHITECTURE WITH INTERIOR DESIGN

O. 5623 A candidate for being eligible for admission to the Third Year of the Bachelor of Architecture with Interior Design Course of this University must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for the Second Year Architecture with Interior Design.

O. 5624 A candidate for being eligible for the Third Year Architecture with Interior Design Examination of this University:

- a) must have passed the Second Year Architecture with Interior Design Examination
- b) must have kept satisfactory attendance for two academic terms of the Third Year
- c) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for Third Year examination.

R. 5421 To pass the Third Year Architecture with Interior Design examination the candidate must obtain

40% of the full marks in Theory papers,

50% of the full marks in External viva voce, and

50% of the full marks in all internal subject heads (Sessional Work) of passing

However, the candidate who has failed in some Theory papers or some External viva voce, but has obtained passing marks in other Theory papers and other External viva voce and in *all* Sessional Work, shall at his/her own option be excused from appearing in the Theory papers or External viva voce in which he/she has passed, and the marks obtained in the Theory papers and External viva voce and Sessional Work in which he/she has passed shall be carried over to the subsequent examination.

R. 5422 Those successful candidates who have obtained 55% of the total marks obtainable in the examination taken at one sitting only shall be placed in the Second Class. Those successful candidates who have obtained 60% of the total marks obtainable in the examination taken at one sitting only shall be placed in the First Class. Those candidates passing the examination of the Third Year at one and the same sitting only shall be eligible for the award of prize, medal or scholarship.

R. 5423 The candidates shall be examined in the following subjects as per the examination scheme of the Third Year Examination in Architecture with Interior Design which will be conducted by this University.

R. 5424 The following are the syllabi in various subjects of the Third Year of Architecture with Interior Design:

FOURTH YEAR ARCHITECTURE WITH INTERIOR DESIGN

O. 5625 A candidate for being eligible for admission to the Fourth Year of the Bachelor of Architecture with Interior Design Course of this University must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for the Third Year Architecture with Interior Design.

O. 5626 A candidate for being eligible for the Fourth Year Architecture with Interior Design Examination of this University:

- a) must have passed the Third Year Architecture with Interior Design Examination
- b) must have kept satisfactory attendance for two academic terms of the Fourth Year
- c) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for Fourth Year examination.

R. 5425 To pass the Fourth Year Architecture with Interior Design examination the candidate must obtain

40% of the full marks in Theory papers.

50% of the full marks in External viva voce, and

50% of the full marks in all internal subject heads (Sessional Work) of passing

However, the candidate who has failed in some Theory papers or some External viva voce, but has obtained passing marks in other Theory papers and other External viva voce and in *all* Sessional Work, shall at his/her own option be excused from appearing in the Theory papers or External viva voce in which he/she has passed, and the marks obtained in the Theory papers and External viva voce and Sessional Work in which he/she has passed shall be carried over to the subsequent examination.

R. 5426 Those successful candidates who have obtained 55% of the total marks obtainable in the examination taken at one sitting only shall be placed in the Second Class. Those successful candidates who have obtained 60% of the total marks obtainable in the examination taken at one sitting only shall be placed in the First Class. Those candidates passing the examination of the Fourth Year at one and the same sitting only shall be eligible for the award of prize, medal or scholarship.

R. 5427 The candidates shall be examined in the following subjects as per the examination scheme of the Fourth Year Examination in Architecture with Interior Design which will be conducted by this University.

R. 5428 The following are the syllabi in various subjects of the Fourth Year of Architecture with Interior Design:

FIFTH YEAR ARCHITECTURE WITH INTERIOR DESIGN

O.5627 A candidate for being eligible for admission to the Fifth Year of the Bachelor of Architecture with Interior Design Course of this University must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for the Fourth Year Architecture with Interior Design.

O. 5628 A candidate for being eligible for the Fifth Year Architecture with Interior Design Examination of this University (Part I):

- a) must have passed the Fourth Year Architecture with Interior Design Examination
- b) must have kept satisfactory attendance for the first academic term of the Fifth Year
- c) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for Fifth Year (Part I) examination.

O. 5629 A candidate for being eligible for the Fourth Year Architecture with Interior Design Examination of this University (Part II):

- a) must have kept satisfactory attendance for the first academic term of the Fifth Year
- b) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for Fifth Year (Part I) examination.
- c) must have testimonials of having worked for the duration of the second academic term of the Fifth Year as an Intern in the offices of an architect to the satisfaction of the Principal/ Head of the college

R. 5429 To pass the Fifth Year (Parts I & II) Architecture with Interior Design examination the candidate must obtain

40% of the full marks in Theory papers,

50% of the full marks in External viva voce, and

50% of the full marks in all internal subject heads (Sessional Work) of passing

However, the candidate who has failed in some Theory papers or some External viva voce, but has obtained passing marks in other Theory papers and other External viva voce and in *all* Sessional Work, shall at his/her own option be excused from appearing in the Theory papers or External viva voce in which he/she has passed, and the marks obtained in the Theory papers and External viva voce and Sessional Work in which he/she has passed shall be carried over to the subsequent examination.

R. 5430 Those successful candidates who have obtained 55% of the total marks obtainable in the examination taken at one sitting only shall be placed in the Second Class. Those successful candidates who have obtained 60% of the total marks obtainable in the examination taken at one sitting only shall be placed in the First Class. Those candidates passing the examination of the Fifth Year (Parts I & II) at one and the same sitting only shall be eligible for the award of prize, medal or scholarship.

R. 5431 The candidates shall be examined in the following subjects as per the examination scheme of the Fifth Year (Parts I & II) Examination in Architecture with Interior Design which will be conducted by this University.

R. 5432 The following are the syllabi in various subjects of the Fifth Year (Parts I & II) of Architecture with Interior Design:

**TEACHING AND EXAMINATION SCHEME SECOND YEAR ARCHITECTURE WITH INTERIOR DESIGN, UNIVERSITY OF MUMBAI
(EXAM TO BE CONDUCTED BY COLLEGE)**

SR. NO.	SUBJECTS	TEACHING SCHEME			EXAMINATION SCHEME				SESSIONAL MARKS		
		TERM I AND II			NO. OF PAPERS	DURATION IN HOURS	PAPER MARKS	MIN PASSING MARKS	INTERNAL		EXTERNAL
		LECTURE PERIODS	STUDIO PERIODS	TOTAL PERIODS					MAX. MARKS	MIN. PASSING MARKS	
2.1	Architectural Design-II	---	256	256	---	---	---	---	150	75	150
2.2	Theory & Design of Structures-II	128	---	128	1	3	100	40	50	25	---
2.3	Architectural Building Construction-II	64	128	192	1	3	70	4	100	50	---
2.4	Building Materials-II	32	---	32	1	3	30	40	50	25	---
2.5	History of Architecture-I	96	---	96	1	3	100	40	50	25	---
2.6	Building Services-I	64	64	128	1	3	100	40	100	50	---
2.7	Climatology	32	---	32	---	---	---	---	50	25	---
2.8	Surveying and Levelling	32	64	96	1	2	50	20	50	25	---
2.9	Residential Interior Design-theory-I	32	64	96	1	2	50	20	100	50	---
2.10	Residential Interior Design-Practical-I	64	---	64	---	---	---	---	50	25	---
2.11	Humanities-II	---	96	96	---	---	---	---	50	25	---
2.12	Graphics-II	---	64	64	---	---	---	---	50	25	---
2.13	Computers-I	---	64	64	---	---	---	---	50	25	---
2.14	Interior Working Drawing-I	128	128	256	---	---	---	---	50	25	---
2.15	Model making Interior	128	128	256	---	---	---	---	50	25	---
									950		200
									550		
									1664		

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.1 ARCHITECTURE DESIGN II

Teaching Hours

Lecture : -----

Studio : 256 periods of 45 mins. each.(192 Hours)

Sessional Marks

Internal : 150

External : 150

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

STAGE-I

Design problem shall be urban in nature and sufficient scope for the following shall be made:

Data collection

Climatic condition

User requirements

Design problem shall consider the above and planning shall be for large group of people and for various activities such as nursery/ primary school, Club house units etc.

Design problem shall also consider methods of construction, materials, building services, theory of structures studied during 1st and 2nd years.

STAGE-II

Design problem shall be limited to ground and first floors and load bearing construction as studied, with theory of structures. In the previous terms and shall consider:

Basic data collection and utilisation

Climatic condition

Space conservation

Transportation:

Design problem shall be related to multiple activities such as block of flats, school, 2/3 star hotel, restaurant, Recreation centre, etc.

(In this term students shall be introduced to concrete technology which shall be further elaborated upon in 1st and 2nd terms of 3rd year).

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.2 THEORY AND DESIGN OF STRUCTURES-II

Teaching Hours

Lecture : 128 Periods of 45 mins. each.(96 Hours)
 Studio : -----

Sessional Marks

Internal : 50
 External : -----

Examination Scheme

Duration : 3 Hours
 Marks Max. : 100
 Marks Min : 40

OBJECTIVES:

- Understanding of basic theories and principles of structural analysis.
- Understanding of properties of materials relevant to structural analysis.
- Understanding of Behaviour of structural elements under various conditions.

1. BEHAVIOUR OF STRUCTURAL ELEMENTS:

- Understanding and identifications of location of forces, bending moment and bending stress in fixed beams, continuous beams, portal frames etc.
- Deflection in simply supported beams and cantilevers with distributed and point loads.
- Columns and struts-short and long columns, slenderness ratio etc.
- Combined bending and direct stresses, axial and eccentric loads, effects of eccentricity, e.g. masonry wall, chimney.
- Fixed beams-simple supported and fixed support, advantages and disadvantages. Determination of positive and negative bending moments in fixed beams. (Confine the loading to point and UDL covering full span only).
- Continuous beams –negative and positive bending moments in continuous beams covering two or more spans of uniform section and simple loading by moment distribution method. Symmetrical portal frames.
- Strain Energy.

2. FOUNDATION DESIGN- SOIL ASPECTS:

- Importance of the Subject.
- Types of soils and their properties.
- Methods of compaction and consolidation.
- Void ratio, porosity, bulk density, dry density, moisture content, degree of saturation, liquid limit, plastic limit etc.
- Test for assessing load bearing capacity of soil.
- Soil properties and characteristics relevant to the design of foundations.
- Criteria for selection of foundation type for different soil conditions.
- Effect of water level, settlement of soil.
- Failure of foundation systems.
- Improvement of soil properties.
- Design procedure for simple load bearing foundations.

3. SESSIONAL WORK

- Testing of various materials such as brick, cement, sand etc. in the workshop.
- Seminars on soils, foundation and frame structures and documentation of the same.
- Plates on soil aspects.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.3 ARCHITECTURAL BUILDING CONSTRUCTION-II

Teaching Hours

Lecture	:	64 Periods of 45 mins. each. (48 Hours)
Studio	:	128 periods of 45 mins. each. (96 Hours)

Sessional Marks

Internal	:	100
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	70 (To be combined with Bldg.Mat. for 30 Mks.)
Marks Min	:	40 (for combined passing with Bldg. Mat.)

Timber doors and Windows-

Fully panelled single and double shutter doors of various types and sizes, fully glazed window and ventilators details of joints thereof. Fixed glass and timber louvered windows.

Steel Windows

Steel Casement windows, with fixtures and fitting methods of fixing.

Timber floors-

Single, double and framed floors with joints between joist with wall plate, joist with beam and sub beam with main beam, strutting of joists, use of templates for support.

Staircases-

Tread & riser and relation between them, Single, double (Dog legged and Open well) and triple flight stairways in stone and timber, balusters and handrail in stone, timber and Steel, details of Joints.

Sessional work based upon above topics.

Timber Trusses

King post and queen post trusses with details of joints, alternative arrangements for tile and sheet roof covering, details of eaves projection with soffits boarding alternative detail of gutter at eaves, sprocket joint.

Light Partitions

Timber, asbestos sheet and soft board and glazed partitions, W.I. and R.C.C. grilles enclosures.

False Ceiling

False Ceiling of asbestos sheets, soft boards, acoustic boards, plaster of Paris etc on timber and steel or aluminium framework, details of lighting and air conditioning grid panel, concealed lighting.

Hollow Walls-

Cavity walls in Brick and Hollow concrete blocks.



10
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.4 BUILDING MATERIAL-II

Teaching Hours

Lecture	:	32 Periods of 45 mis. each. (24 Hours)
Studio	:	-----

Sessional Marks

Internal	:	50
External	:	-----

Examination Scheme

Duration	:	-----
Marks Max.	:	-----
Marks Min	:	-----

Paints and Varnishes

Composition, manufacture and properties and uses of ordinary paints, varnishes and wood preservatives, Method of Distempering wall surfaces and painting of timber and iron work.

Roofing Sheets and tiles

Corrugated galvanised iron sheets and asbestos cement sheets with accessories shingles etc. and methods of their fixing. Clay, Mangalore, Allahabad and country type tiles, their properties and method of fixing.

Timber Board

Plywoods, Block Boards, Particle Boards, Hard Boards and Veneers.

Eco Friendly Boards

Eco Boards, Soft Boards, Nuwood and Laminates.

Natural floor finishes

Shahabad, Kotah different types of Marble, granite etc.

Artificial floor finishes

Ceramic tiles, Mosaic tiles, Cement Tiles, Pavers Cement Blocks.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.5 HISTORY OF ARCHITECTURE-I

Teaching Hours

Lecture	:	96 periods of 45 mins. each. (72 Hours)
Studio	:	-----

Sessional Marks

Internal	:	50
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

STAGE-I

Development of various styles with reference to the influencing factors such as- Geographical, geological, climatic, religious, social and political conditions

1. Prehistoric Architecture
2. Egyptian Architecture
3. West Asiatic architecture
4. Classical Greek Architecture
5. Classical Roman Architecture
6. Early Christian and Byzantine Architecture
7. Romanesque Architecture
8. Gothic architecture

Sessional work of 25 marks shall be assessed by the jury of internal examiners-

- One example from each of the above topic shall be selected and the candidate shall submit informative notes with neat sketches.

STAGE-II

1. Development of the style under the influencing factors and forces with regard to-
2. Renaissance Architecture | Italy, France and England
3. Study of Modern (Contemporary) Architecture
4. Greek revival
5. Industrial Revolution and its influence on social, economic conditions and architecture of that period.
6. Scientific and technological progress, invention of new materials.
7. Characteristics of Modern Architecture and its necessity in changed pattern of life. Invention of Reinforced Cement Concrete and its revolutionary effect on construction.
8. New Construction methods and structural systems such as geodesic dome, space frame, pre-fabrication etc.

Sessional work of 25 marks shall be assessed by the jury of internal examiners-

- Detail study of any one example from Renaissance Architecture in Italy, France and England with informative notes.
- Biography of any four Architects who have contributed in development of architecture. The students shall submit informative notes about their life, philosophy and work with example.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.6 BUILDING SERVICES-II

Teaching Hours

Lecture	:	64 periods of 45 mins. each. (48 Hours)
Studio	:	64 periods of 45 mins. each. (48 Hours)

Sessional Marks

Internal	:	100
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

OBJECTIVES

Studying services for complex buildings and neighbourhood.
Applying in architecture design and preparing layout and details.

SECTION-I

WATER SUPPLY, DRAINAGE AND SANITATION

- Sources of water supply and method of supply
- Catchment areas, reservoirs and their location
- Water purification systems- plants, treatment, filtration, sterilization softening etc.
- Water distribution systems, control systems, supply for a neighbourhood and town.
- Water supply for a multi-storeyed buildings and industrial projects
- Site planning from drainage point of view
- Storm water drains, details of construction, water entrances, gullies, open drains, gradients, ventilation of drains, rainfall and Maintenance.
- Sewage and sewage treatment plant, by products, gas plants.
- Connection of house sewers to Municipal sewers, ventilation of sewers.
- Sewage disposal scheme for small projects and towns.
- Garbage disposal, incinerator, dry disposal.
- Garbage disposal in multi storeyed buildings, dry and wet treatment.
- Treatment of Industrial refuse.
- Refuse and pollution problems

SECTION-II

ELECTRICITY

- Day lighting and Day light factor
- Distribution of electric power for large projects.
- Transformers, sub-stations, LT rooms.
- Selections pertaining to installations and load of electric supply

SESSIONAL

- Preparing water supply, drainage and sanitation design layout and details for a residence and apartment block.
- Preparing electricity layout and details for a residence and apartment block.
- Conducting market study and collecting informative brochures and specifications on various products available.

13
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

7 CLIMATOLOGY-I

Teaching Hours

Lecture	:	32 periods of 45 mins. each. (24 Hours)
Studio	:	-----

Sessional Marks

Internal	:	50
External	:	-----

Examination Scheme

Duration	:	-----
Marks Max.	:	-----
Marks Min	:	-----

- Effect of climate on man, shelter and environment
- Human Comfort conditions—Comfort Chart, Comfort Zone & Effective Temperature.
- Macro-climate and Micro climate
- Effect of Landscape elements on Climate and Architecture
- Impact of Climate and Buildings on Ecological balance—Introduction.
- Solar radiation and Architecture
- Air flow patterns inside buildings and in building layouts
- Effect of Humidity on Buildings
- Thermal effect on building materials
- Regional approach in the application of the above principles of climate control in the Design of Buildings.

Sessional work based on above topics

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.8 SURVEYING & LEVELLING-I

Teaching Hours

Lecture	:	32 periods of 45 mins. each.(24 Hours)
Studio	:	64 periods of 45 mins. each.(48 Hours)

Sessional Marks

Internal	:	50
External	:	-----

Examination Scheme

Duration	:	2 Hours
Marks Max.	:	50
Marks Min	:	20

Introduction- Aim, Object and Importance of Subject and scope for Architects.
Brief History of land surveys executed by Government Departments, with particular reference to surveys of Bombay City, Index Map and N.S.Sheets, Information and working of land Records office.

Reading of survey Maps, understanding of features and undulations of ground.

Reconnaissance

Chain Survey and triangulation

Study of instruments used for chain survey viz. (1) Chains, (2) Ranging Rods, (3) Tapes, (4) Optical Square, (5) Octagonal Cross Staff and (6) Cylindrical Cross Staff.

Chain Line ranging, Measurement of Offsets, overcoming Obstacles.

Recording of Chain Survey measurements in field book

Plotting of Chain survey, scales used in plotting.

Calculation of area by method of triangles, by Simpson Rule, using graph paper and by planimeter, Hectare and Acre.

Traverse Survey

Instruments used viz Prismatic Compass and Theodolite and temporary adjustments

Recording measurements of a Prismatic Compass Survey, Magnet Meridian, Back Fore and reduced bearing, Local attraction and correction.

Plotting of Traverse survey and elimination of closing error.

Various uses of theodolite, finding out heights or distances of inaccessible structures, lining out of large factory type buildings and roads, advantages of Prismatic compass.

Plain table surveying, Advantages and scope.

Instrument used for plain table surveying viz (1) Radiation, (2) Alidade, (3) Plumbing work, and (4) Through Compass.

Methods of plain table surveying Viz (1) radiation, (2) InterSection, (3) Resection and (4) Traverse.

Levelling and its principle

Level line and horizontal line, line of Collimation, Bench mark (Temporary and Permanent)

Instrument used for levelling- Dumpy level, Leveling Staff etc...

Reading of Levels, Back Intermediate and Fore Sight.

Recording of levelling survey, finding reduced levels by Rise and fall & Collimation

Levelling for a Road Project, Plotting of a Road profile(Longitudinal Section),

deciding of Formation level, finding, Cutting and Embankment heights.

Contours, definition & purpose, Properties & Behaviour of Contours in case of gentle

& steep Slope, Ridges & valleys, Hill and Pond Vertical & Overhanging Cliff.

Methods of Contouring-direct and indirect; Radial and Square system.

Plotting of Contours interpolation.

Calculation of volume of Earth Work for Plot leveling and Road Project Balancing of

cutting and embankment work.

Enlarging or reducing of Maps by Radial Method & using Pentagraph.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.9.a RESIDENTIAL INTERIOR DESIGN THEORY-II

Teaching Hours

Lecture	:	32 periods of 45 mins. each.(24 Hours)
Studio	:	-----

Sessional Marks

Internal	:	-----
External	:	-----

Examination Scheme

Duration	:	2 Hours
Marks Max.	:	50
Marks Min	:	20

Brief description of the course:

This course deals with the study of Residential spaces, Interior designing and the factors influencing furnishing space organization, e'c.

Objectives:

1. To provide adequate facility for work, relaxation, rest, comfort, privacy maintenance, aesthetics, etc. through interiors.
2. To understand the application of anthropometric measurements and ergonomical evaluation in residential space designing for various activities.

Course outline:

1. Introduction of large residential interior spaces from design point of view.
2. Types of large interior residential spaces – apartments, row-house, bungalow, farm-house, villas, palaces etc.
3. Study of factors influencing furnishing of residential spaces – climate, family needs & preferences, material availability in the market, design principles & financial limits
4. Consideration of Ergonomics for Residential interior space design.
 - a) Work environment – work space, climate, lighting, equipments and services.
 - b) Work and workers environmental relationship.
 - c) Kitchen and storage as the most important work areas, various design and functional arrangements.
 - d) Effects of working height and storage in relation to anthropometric measurements.
5. Study of environmental factors such as Light, ventilation, noise, air-pollution, etc and their influence on human & cost.
6. Study of different body postures used in different activities and its relation to fatigue.

References:

1. Alexander N.J. & Mercourt brace. – Designing Interior Environment - Havanovich inc. 1972.
2. Architectural press – A.J. Metric Handbook - (latest edition). London.
3. Ball Victoria Kloss – The Art of Interior Design - The Macmillan and Co. N.Y.
4. Christopher F.J. & Christopher R.B. – The Handyman's Encyclopedia - A manual of Home decoration & repairs, spring books ltd. London.
5. Conran Terence – The House Book - 2nd Edition, Grover publication.
6. Grandjean Eriens – Ergonomics of the home - Taylor & Francis Ltd. London (1978).
7. Panero Julius & Zelink martin – Human Dimensions & Interior Space - Whitney Library of Design. N.Y. 1979.
8. Steidle R. & Braton E.C. – Work in the Home - John Wiley & sons. London (1968).

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.9.b RESIDENTIAL INTERIOR DESIGN PRACTICAL-II

Teaching Hours

Lecture	:	-----
Studio	:	192 Periods of 45 mins. each.(1.44 Hours)

Sessional Marks

Internal	:	100
External	:	50

Examination Scheme

Duration	:	6 Hours
Marks Max.	:	50
Marks Min	:	20

Brief description of the course:

This course deals with the study of Residential spaces, Interior designing and the factors influencing furnishing space organization, etc.

Objectives:

1. To develop the detailed visualization of the scheme considering the principles.
2. To develop skill in selection of appropriate materials for various surfaces.

Course outline:

1. Anthropometric data and its relation to furniture size, movement, circulation and furniture design.
2. Space organizations in residential interiors.
3. Surface treatments in interiors, e.g. walls, floors, ceilings.
4. Constructional details of various furniture units.
5. Application of colour, texture, pattern and their psychological effects in Interior.
6. Interior design of large residential spaces apartments, row-house, bungalow, farm-house, villas, palaces (larger than 60 sq.m area).
7. Details of any one scheme for submission. (min. 5 items of work)
8. Flattened model of larger residential area.

Reference:

1. Architectural press – A.J. Metric Handbook - (latest edition). London.
2. Conran Terence – The House Book - 2nd Edition, Grover publication.
3. Hulsta – Voubildlich Wohnen.
4. Leinbach Richard B. – Visualization Techniques -New Jersey.
5. Readers Digest book of Home Improvement.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.10 HUMANITIES

Teaching Hours

Lecture : 64 periods of 45 mins. each.(48 Hours)

Studio : ———

Sessional Marks

Internal : 50

External : ———

Examination Scheme

Duration : ———

Marks Max. : ———

Marks Min : ———

- Rise of Christianity
- Medieval Europe
- Rise of Islam
- Renaissance, Reformation and Geographical discoveries
- South Indian empires- Pallavas, Cholas and Pandyas.
- Medieval Societies of India
- Mughal Art and Architecture
- Baroque and Roccoco periods in Europe
- Impacts of French and Industrial Revolutions
- Emergence of Modern Art and Architecture
- Features of developing Countries.
- Rural life in India with special reference to problems regarding rural, land labour and rural work/ employment schemes.
- Changes in rural lifestyle in contemporary India.

Sessional Work based on above topics.

18
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.11 GRAPHICS-II

Teaching Hours

Lecture : 96 periods of 45 mins. each, (72 Hours)

Studio : -----

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

1. Perspective by measuring point method
2. Perspective of Interiors
3. Shades and Shadows in Perspective
4. Rendering techniques in different mediums
5. 3- Point Perspective of high rise structures

Sessional Work-

The students shall submit perspectives of two interior design projects and two perspectives of exteriors of the building showing human figures, vehicles etc. rendered in water colour.

This Sessional work carries 50 marks and shall be assessed by the internal and external examiner at the end of the academic year.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.12 COMPUTERS-I

Teaching Hours

Lecture : -----
 Studio : 64 periods of 45 mins. each. (48 Hours)

Sessional Marks

Internal : 50
 External : -----

Examination Scheme

Duration : -----
 Marks Max. : -----
 Marks Min : -----

An Architects office is a complex organisation. It has to deal with many other functions besides just doing Architectural drawings as such a complete management outlook of the Architect's office is necessary. Computers have demonstrated that by their effective use the efficiency of a cross section of work force can be improved.

Although, CAD is an integral part of Architects operative. It still remains only as a part, CAD is also highly technical and thus tends to be a bit difficult o grasp. Exposing young aspirant is thus in two phases.

The first phase deals with computer fundamentals which are necessary to be efficient with a computer. It deals with basic word processing and spread sheet function with emphasis on application like generation of letters, preparation of reports etc

The course then goes on to teach graphic application other than CAD for fast and attractive presentation of themes and ideas. After this phase the student should be ready with the fundamental understanding of the computers to be expose to the extensively technical subject of CAD.

It is expected that the student before going to the second stage would have gone through fundamentals of the architectural course. They are now ready to embark on a more detailed study on the intricacies of architectural type. They are expected to apply their basic knowledge and convert the same in to a creative output. At this stage visualisation of their design is much easier and would help them to identify various errors that may have possibly crept in. Specialized CAD package have the facility to allow 3D Design as well as simulation. It is proposed to teach this packages as it will allow the students to not only appreciate and grasp them better but also to test some of the design concept on this software.

Sessional Work-

Shall consist of presenting a design programme/ projects done under graphics II on CAD.

20
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.13 INTERIOR WORKING DRAWING-I

Teaching Hours

Lecture : -----

Studio : 128 Periods of 45 mins. each.(96 Hours)

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

Brief description of the course:

To develop the skill of making working details and drawing to execute the same.

Objectives:

1. To study the materials along with fittings and fixtures to be used in the execution of the item of work.
2. To develop the skills of drawing the working details & execution drawing.

Course outline:

1. Methods of panelling and cladding to walls.
2. Different types of false ceiling in various materials.
3. Mezzanine and lofts in timber, steel, etc.
4. Different types of partition in wood, aluminium, including sound proof partition, etc.
5. Kitchen platform.
6. Residential furniture items: Sketch form sizes & details of:-
 - a) Sofa
 - b) Chair
 - c) Puffee
 - d) Centre table
 - e) Wall unit
 - f) Dining table
 - g) Side board
 - h) Bed
 - i) Kitchen unit
 - j) Wardrobe
 - k) Dressing table etc.

References:

1. Chudley R – **Construction Technology** -Vol. 1 to 4.
2. John A. Walton – **Wood work in Theory and Practice** - George G. Harrap & Co. Ltd. 1948.



DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

SECOND YEAR ARCHITECTURE WITH INTERIOR

2.14 MODEL MAKING (INTERIOR)-I

Teaching Hours

Lecture : -----

Studio : 128 periods of 45 mins. each. (96 Hours)

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

Brief description of the course:

This course deals with craft art. It develops craft ability in students which helps to study to present the scheme more realistically by preparing models.

Objectives:

1. To develop craft ability in the students.
2. To study the scheme in actual three dimensions (reduced scale) with line, level, texture, colour, etc.

Course outline:

1. Introduction of model making, its importance in interior scheme study and presentation.
2. Introduction of tools required for model making.
3. Practice of cutting, pasting, joining, stitching and making different shapes & forms, interpenetration of objects.
4. Model of small items of work – walls, windows, doors, flooring, toilet, kitchen, furniture items, accessories, carpet, curtains, cushions, planters, household equipments, etc.
5. Model making of residential interior scheme.

References:

1. Richard B. Lenbach – Visualization techniques – New Jersey.

TEACHING AND EXAMINATION SCHEME THIRD YEAR ARCHITECTURE WITH INTERIOR DESIGN, UNIVERSITY OF MUMBAI
(EXAM SHALL BE CONDUCTED BY UNIVERSITY OF MUMBAI)

SR. NO.	SUBJECTS	TEACHING SCHEME			EXAMINATION SCHEME					SESSIONAL MARKS			
		TERM I AND II			NO. OF PAPERS	DURATION IN HOURS	PAPER MARKS	MIN. PASSING MARKS		INTERNAL		EXTERNAL	
		LECTURE PERIODS	STUDIO PERIODS	TOTAL PERIODS						MAX. MARKS	MIN. PASSING MARKS	MAX. MARKS	MIN. PASSING MARKS
3.1	Architectural Design-II	---	256	256	---	---	---	---		200	100	400	200
3.2	Theory & Design of Structures-II	128	---	128	1	3	100	40		50	25	---	---
3.3	Architectural Building Construction-III	64	128	192	1	3	100	40		100	50	100	50
3.4	History of Architecture-II	96	---	96	1	3	100	40		50	25	---	---
3.5	Building Services-II	64	64	128	1	3	100	40		100	50	100	50
3.6	Quantity Surveying-I	64	---	64	---	---	---	---		100	50	---	---
3.7	Specifications-I	64	---	64	1	3	100	40		---	---	---	---
3.8	Working Drawing-I	---	128	128	---	---	---	---		100	50	100	50
3.9	Humanities-III	64	---	64	---	---	---	---		50	25	---	---
3.10	Landscape-I	64	96	160	1	3	100	40		100	50	---	---
3.11	Commercial Interior Design Theory-I	---	---	---	---	---	---	---		---	---	---	---
3.12	Commercial Interior Design Practical-I	---	28	28	---	---	---	---		---	---	---	---
3.13	Commercial Interior Design Practical-II	---	28	28	---	---	---	---		---	---	---	---
3.14	Interior Working Drawing-II	---	---	---	---	---	---	---		---	---	---	---
3.15	Interior Working Drawing-III	---	---	---	---	---	---	---		---	---	---	---
3.16	Scenic Art	---	---	---	---	---	---	---		---	---	---	---
					1664		700			1050		750	

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.1 ARCHITECTURAL DESIGN-III

Teaching Hours

Lecture	:	-----
Studio	:	256 periods of 45 mins. each.(192 Hours)

Sessional Marks

Internal	:	200
External	:	400

Examination Scheme

Duration	:	-----
Marks Max.	:	-----
Marks Min	:	-----

STAGE-I

Scope of design considering:

Method of construction, materials, building services & theory of structures studies during 1st and 2nd Year.

Data collection and analysis

Climatic Conditions

Socio-economic conditions

Basic needs of the present living in rural areas.

Design problems considering the above dealing with small rural development schemes.

STAGE-II

Scope of design considering:

Method of construction, materials, building services & theory of structures studies during 1st and 2nd Year.

Data collection and analysis

Site conditions & Climatic Conditions

Socio-economic conditions

Users requirements.

Communication

Transportation.

Design problem considering the above dealing with planning for masses for multiple activities such as Departmental stores, markets, drama theatres, cinemas etc.

Designs done during 1st term and 2nd term will be presented at jury. Each design shall have 200 marks at each external jury. Drawings will be of imperial size.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

2 THEORY AND DESIGN OF STRUCTURES-III

Teaching Hours

Lecture : 128 periods of 45 mins. each.(96 Hours)

Studio : ----

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : 3 Hours

Marks Max. : 100

Marks Min : 40

OBJECTIVES

- Understanding concrete structures
- Understanding steel structures
- Understanding structural drawings
- Understanding structural planning

R.C.C. STRUCTURES:

- Concrete technology: Types of Cements, fine & coarse aggregates, water cement ratio, formwork and centering, mild and tor steel reinforcement bending and fixing, placing of concrete and methods of compacting of concrete, expansion and construction joints in concrete, durability of concrete with respect to honeycomb free, cold joint, role of admixtures in concrete.
- (Visit to construction sites to study concrete technology).
- Introduction to pre-cast concrete.
- R.C.C. Theory: Limit State Method
- R.C.C. Footing, Column, Beam & Slab design, R.C.C. Staircase.
- Application of thumb rules for beams, columns, slabs, for fixing sectional properties.
- Use of code for special practice for R.C.C. members (Indian Standards)
- Design and detailing of simple G+1 structure.

STEEL STRUCTURES

- Understanding types of joints in steel structures, riveted, welded and Bolted joints.
- Types of steel sections and their properties.
- Criteria for selection of steel sections and their properties.
- Design and detailing of a factory shed in steel structure.
- Visit to steel fabrication site

SESSIONAL WORK

- Preparing structural drawings of a simple RCC and Steel structure as mentioned above.
- Visits to construction sites to study RCC structures and steel fabrication work and preparation of layout.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.3 ARCHITECTURAL BUILDING CONSTRUCTION-III

Teaching Hours

Lecture	:	64 periods of 45 mins. each.(48 Hours)
Studio	:	128 periods of 45 mins. each.(96 Hours)

Sessional Marks

Internal	:	100
External	:	100

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

Advanced Doors and Windows-

Heavy panelled and moulded doors in timber, fully glazed sliding folding doors and windows, rolling shutters.

Curtain Walls-

Curtain walls in glass, aluminium, precast concrete units etc. for buildings like laboratories, offices, cinemas.

R.C.C. Construction-

Frame construction, advantages over load bearing construction study of column grid, detailing of R.C.C. work with reinforcement for slabs, beams, columns, footing, staircases (ordinary and spiral).

Sessional Work based on above topics.

Decorative Wall finishing and Treatment-

Stone facing of various types (Stone, marble, granite slab etc.) for walls, decorative patterns in brick, stone for wall treatment lining in soft board timber etc. for offices.

Structural Steel Construction

Detailing of Structural steel with connections for beams, stanchions, grillage footings, stairways, plate girders, trusses of various types including those for North Light Factories, Verendeel girders, castellated beams.

Patent Glazing

Patent glazing for skylights, lanterns, north light trusses etc.

Floor and Roof Finishes

Timber Boarded and Parquette Floors for gymnasias and dance halls, Tarfelt water proofing.

Sessional Work based on above topics.

The Sessional work shall be based upon all the topics stated under syllabus. If necessary supported with relevant notes and Sketches. Minimum 7 and Maximum 10 drawings of imperial size to prepared.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.4 HISTORY OF ARCHITECTURE-II

Teaching Hours

Lecture : 96 periods of 45 mins. each.(48 Hours)
Studio : ----

Sessional Marks

Internal : 50
External : ----

Examination Scheme

Duration : 3 Hours
Marks Max. : 100
Marks Min : 40

STAGE-I

Study of Indian Architecture, Its gradual growth from Indus valley Civilization under various influences and as foreign invasions, geographic, political religious, climatic conditions etc. with regard to-

1. Indus Valley Civilization
2. Vedic or Early Aryan Architecture in India
3. Buddhist Architecture
4. Indo-Aryan (Hindu) Architecture
5. Chalukyan architecture in Central and Southern India
6. Dravidian Architecture
7. Jain Architecture
8. Domestic architecture in India in historic time.

Sessional Work of 25 marks shall be assessed by the Jury of External examiners one example from each of the above topics shall be selected and the candidate shall submit informative notes with neat sketches.

STAGE-II

1. Rise of Islam
2. Islamic invasions, political and social conditions in the country.
3. Study of the Islamic Architecture, regions and style wise under local influence with regard to –
 - Kutub or slave dynasty and Imperial style or early Pathan style Delhi.
 - Jaunpur style
 - Malwa or Mandu style
 - Different styles at Deccan-
 - a) Gulbarga
 - b) Bidar
 - c) Golkonda
 - d) Bijapur
 - Gujarat architecture
 - Mughal Architecture
 - British Colonial architecture

Sessional Work of 25 marks shall be assessed by the Jury of External examiners one example from each of the above topics shall be selected and the candidate shall submit informative notes with neat sketches.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.5 BUILDING SERVICES -II

Teaching Hours

Lecture	:	64 periods of 45 mins. each.(48 Hours)
Studio	:	64 periods of 45 mins. each.(48 Hours)

Sessional Marks

Internal	:	100
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

OBJECTIVES

- Introduction to fundamentals of all types of services required in a building.
- Learning about various equipment and fittings available in the market.
- Preparing basic design layout of various services with typical details.

WATER SUPPLY DRAINAGE AND SANITATION

- Pipes and fittings, materials, size and classification.
- Different types of taps, toilet and kitchen fittings.
- Connection lines to fittings.
- Underground, overhead and internal storage tanks and supply lines.
- Pumping Mechanism.
- Design layout of water supply for a residence and apartment block, and calculation of supply requirements based on standards.
- Introduction to sanitation and its importance.
- Planning and layout of sanitary fittings in residences.
- Drainage system for residences.
- Waste water drainage- traps of various types- details and use.
- Rain water disposal and roof drain.
- Sewers- details of construction, inspection chambers, trap chambers.
- Septic tanks.

ELECTRICAL SERVICES

- General distribution of electric power in towns and cities.
- Electric wiring system- different materials employed and methods of wiring.
- Different electrical gadgets and fittings.
- Switch board, distribution board, main fuse meter, circuit breaker etc.
- Single phase and three phase distribution and circuits.
- Basic electrical layout for residence.
- Earthing for electricity appliances.
- Electrical installations for services such as air-conditioning systems, lifts, escalators, pumps etc.
- Artificial lighting, design principles, Illumination levels
- Types of lamps & fittings used
- Application of lighting system for shops, showrooms, offices, lecture halls, classrooms stage, auditoriums etc.

Sessional Work shall be on following topics for design done during 2nd Year, 2nd Term.

- House drainage indicating municipal connection: I.C., D.C., all drainage pipes, Vertical soil, waste and vent connections. Details of D.C., I.C. One toilet/ W.C./ Bathroom layout to 1:50 scale indicating all necessary fixtures and fitting, Also storm water layout, including Rain water Disposal.
- Water supply layout from Municipal main to over head tanks toilet layout indicating fixture and fittings 1:50 scale. Details of Underground and Overhead tank with calculations.
- Electrical layout indicating electric supply from electric main to individual meter room Lighting layout indicating ELCB/MCB/Distribution board, switches, lighting and fan points all plug points etc. with reference to furniture layout. Calculations not to be submitted.

NOTE: Question papers to be set in two sections Section-I & Section-II

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.6 QUANTITY SURVEYING -I

Teaching Hours

Lecture : 64 periods of 45 mins. each.(48 Hours)

Studio : -----

Sessional Marks

Internal : 100

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

Quantity Surveying and Estimating

Introduction-

Definition, Aim and object, scope and importance of subject.

Types of estimates

Approximate and detailed.

Methods of approximate estimating

Built up or carpet area method, cubic contents, method and number system, current rates in Bombay for approximate estimating.

Detailed estimate on item rate basis

Quantities and Abstract of estimate, bill of quantities of a tender, contingencies

Rates for civil work items

As per Municipal or P.W.D. scheduled rates and current market rates in Bombay,

Units for rates.

Taking of quantities for civil work of load bearing wall structure and preparation of abstract.

Taking of quantities for civil work of R.C.C. frame building and preparation of abstract.

Sessional Work based upon above topics.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.7 SPECIFICATIONS-I

Teaching Hours		
Lecture	:	64 periods of 45 mins. each.(48 Hours)
Studio	:	-----
Sessional Marks		
Internal	:	-----
External	:	-----
Examination Scheme		
Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

INTRODUCTION TO SPECIFICATION

Importance of specification in the building activities.

Method of drafting specifications with importance to the correct order and sequence, avoid duplication and ambiguity, specification by negation and affirmation.

Use of Indian standard specification and PWD handbook, for reference only specifications affecting cost.

Specifications forming part of building contract.

Method of specification writing-

I. Trade wise Practice

II. Item of Complicated works.

Establishment for project and their insistence for compliance with specification with reference to contract document

Specification for handing over the site

Standard clauses/instructions for various items of work for the contractor, owner, architect, sub-contractor, Explanation of extra items, their necessity, and other items created for change of specifications.

SPECIFICATIONS FOR A STRUCTURE FROM EXCAVATION UP TO FINISHING IN SUPERSTRUCTURE

Excavation, filling, timbering, dewatering, trenches, etc.

Specification for basic building material required such as bricks, stones, lime, cement, sand, etc. including quality, storage, transportation, handling as per Indian Standard Specification as guidelines for minimum standards of specification.

Specification for concrete works including mixing, transportation, placing & curing of concrete, structure, scaffolding required for R.C.C. works.

Masonry in Brick & Stone both load bearing & panelled walls & ashlar & khandki. General rendering & plasterwork and steel.

Painting on Old & new surfaces in masonry, woodwork & steel.

Flooring cast In-Situ including IPS flooring, in natural stones such as Kota, Marble etc. manufacturing for floor Finish such as agglomerated marble/granite/tiles/ceramic tiles etc.

MATERIAL SPECIFICATION

TIMBER AND ITS PRODUCTS

Selection of materials with their trade names, manufacturer's specifications of allied products such as block board, plywood, soft board etc.

METAL

Study of limitations of metal such as aluminium steel etc.

Identifying a section by their weight, gauge etc.

WATER PROOFING

In toilets, on terraces, in water tanks.

SPECIFICATION FOR MATERIALS USED IN ROOFING & ROOF COVERING

A.C Sheet GI Sheet with method of fixing& finishing at gutter valleys.

Note: Recommended study of all the above with reference to trade names, manufacturer's specifications and Indian Standard Specifications.

APPLICATION OF ALL ABOVE KNOWLEDGE IN DRAFTING SPECIFICATION FOR SUCH WORKS

Load bearing Structure

R.C.C. frame structure

Steel frame structure

30
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.8 WORKING DRAWING -I

Teaching Hours

Lecture : ----
Studio : 128 periods of 45 mins. each.(96 Hours)

Sessional Marks

Internal : 100
External : 100

Examination Scheme

Duration : ----
Marks Max. : ----
Marks Min : ----

STAGE-I

Working Drawing of load bearing wall structure for design problem done during 2nd Year, indicating to appropriate scale:

Foundation plan

Working Floor plan.

Necessary Section

STAGE-II

Working Drawing of Design Problem done during 2nd Year, indicating to appropriate scale:

Working Elevations

Working details

Sessional Work

Working Drawing of design done in 2nd Year of Load bearing walls.

Working Drawing 1:50 scale indicating foundation plan, all floor plans, necessary sections, elevations & 3 working details of interesting part to a scale 1:25- Minimum 6 and Maximum 8 drawings on imperial size papers to be submitted at external Jury.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.9 HUMANITIES -III

Teaching Hours

Lecture : 64 periods of 45 mins. each.(48 Hours)

Studio : -----

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

- Urbanization at global level in India
- Pace of Urbanization
- Problem arising out of rapid urbanization in developing and developed countries
- Major trends of urbanization takes in India
- Genesis of Urbanization
- Urban population growth due to natural increase of migration into urban areas-
Nature of problems of urban migration
- Contemporary problems faced by Mumbai-
 1. Work patterns organized v/s unorganised labour in Mumbai
 2. Public health problems in Mumbai
 3. Public transport problems in Mumbai
 4. Public Housing problems in Mumbai
- Introduction to the economics of the building industry including study of factors of land, labour, capital, changing technologies and management in the production of Architecture.

Sessional Work based on upon above topics.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.10 LANDSCAPE-I

Teaching Hours

Lecture	:	64 periods of 45 mins. each.(48 Hours)
Studio	:	96 periods of 45 mins. each.(72 Hours)

Sessional Marks

Internal	:	100
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min	:	40

PART-A

Introduction to Landscape Architecture

Designing and execution of proposal:

- a) Analysis of site
- b) Identification of functional requirements
- c) Site development by exploiting mutual forms
- d) Hard surfaces-materials
- e) Elements in Landscape design-
 - Lawn
 - Hedges and Shrubs
 - Trees, Annuals & Seasonals
 - Rockerries
- f) Field identification of minimum 20 common Indian trees and 25 common Indian shrubs

PART-B

- History of landscape architecture
 - a) Moghul
 - b) Renaissance
 - c) 18th Century-Brownian
 - d) 19th Century- Botanical gardens
 - e) Japanese landscape
- 20th Century Urban Landscape
 - a) Roof gardens
 - b) Atriums-
 - c) Road side plantations, avenues
 - d) Indoor landscape (general)
- Childrens Play Area
 - a) Dwelling level
 - b) Neighbourhood level
- Concept and use of national parks.

Sessional Work

To be started after Part-A is completed I theory classes

Related to Architecture Design other than Industrial

Landscape design of a neighbourhood open space (area of 2000 – 3000 sq.meters).

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.11 COMMERCIAL INTERIOR DESIGN THEORY-I

Teaching Hours

Lecture : 32 Periods of 45 mins. each.(24 Hours)
Studio : -----

Sessional Marks

Internal : -----
External : -----

Examination Scheme

Duration : 2 Hours
Marks Max. : 50
Marks Min : 20

Brief description of the course:

This course deals with experience in designing & drawing interior schemes for commercial spaces, considering principles of design, anthropometric data, ergonomical evaluation, etc.

Objectives:

1. To develop detailed visualization and designing of various commercial interior schemes.
2. To develop skill in selection of appropriate materials for various surfaces.

Course outline:

1. Introduction of small commercial interior spaces from design point of view.
2. Study of factors influencing furnishing of small commercial spaces.
 - a) Location.
 - b) Space requirement.
 - c) Needs and preferences.
 - d) Availability of materials.
 - e) Design principles.
 - f) Financial limits.
3. Consideration of ergonomics for commercial interior space design.
4. Study of different work centers for small commercial interior spaces.
5. Study of environmental factors.
6. Study of different body postures used in different activities & its relation to fatigue.
7. Plants, different landscape elements, etc.

Reference:

1. Alexander N.J & McCourt brace. – **Designing Interior environment** - Havanovich inc. 1972.
2. Grandjean Efiens – **Ergonomics of the Home** - Taylor & Francis Ltd. London (1978).
3. Hargan C.T & Cook J.S. – **Human energy gives to Equipment design** - Mc. Graw Hill, New York.
4. Osborne David – **Ergonomics at work** - Chichester John Wiley, London.
5. Roger, Yee and Karen Gustafson – **Corporate design** - Thames and Hudson.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.12 COMMERCIAL INTERIOR DESIGN PRACTICAL-I

Teaching Hours	
Lecture :	-----
Studio :	128 Periods of 45 Minutes each.(96 Hours)
Sessional Marks	
Internal :	100
External :	50
Examination Scheme	
Duration :	6 Hours
Marks Max. :	50
Marks Min. :	20

Brief description of the course:

This course gives experience in drawing interior schemes for commercial spaces considering principles of design, anthropometric data, etc. It also includes presentation drawing with complete estimation and model of one of the schemes.

Objectives:

1. To develop detailed visualization and the drawing of various commercial interior schemes considering the principles.
2. To develop the skill in selection of appropriate materials for various surfaces.

Course outline:

1. Study of commercial area furniture items.
2. Study of small commercial interior space design (30 sq.m to 50 sq.m) such as shops, restaurants, clinic, etc.
3. Estimation of any one of the schemes.
4. Details of any one of the schemes. (few interesting items)
5. Flattened model of small commercial area.

References:

Same as for:

- a) Residential Interior Space Design (Practical) references.
- b) Commercial Interior Space Design (Theory) references.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.13 INTERIOR WORKING DRAWING-II

Teaching Hours

Lecture : -----

Studio : 128 periods of 45 mins. each. (96 Hours)

Sessional Marks

Internal : 50

External : -----

Examination Scheme

Duration : -----

Marks Max. : -----

Marks Min : -----

Brief description of the course:

To develop the skill of making working details and drawing to execute the same.

Objectives:

To develop the skills of drawing & to develop detailing for execution drawing (furniture and service drawing also).

Course outline:

1. Commercial furniture details – various types of counters, restaurant furniture, office furniture, shop and other related units.
2. Awnings and sign boards, different types of awnings and sign boards for various shop fronts.
3. Execution drawings of one residential space scheme (layout, reflected ceiling & electrical layout, minimum 5 items of work detail for execution).
4. Execution drawings of one commercial space scheme (layout, reflected ceiling & electrical layout, minimum 5 items of work details for execution).

References:

1. Chudley R – **Construction Technology** -Vol. 1 to 4.
2. John A. Walton – **Wood work in Theory and Practice** - George G. Harrap & Co. Ltd. 1948.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

THIRD YEAR ARCHITECTURE WITH INTERIOR

3.14 SEMINAR

Teaching Hours

Lecture	:	-----
Studio	:	96 periods of 45 mins. each.(72 Hours)

Sessional Marks

Internal	:	50
External	:	-----

Examination Scheme

Duration	:	-----
Marks Max.	:	-----
Marks Min	:	-----

Brief description of the course:

This course deals with training the students for public presentation of the scheme and /or research articles, etc.

Objectives / Course outline:

1. To train students to learn to find reference materials.
2. To train students to analyze, condense and evaluate research activities / reports.
3. To help students to develop ability to effectively present a research paper as a report.
4. To help students to develop ability to prepare and present reviews of a few articles on the same topic.

TEACHING AND EXAMINATION SCHEME FOURTH YEAR ARCHITECTURE WITH INTERIOR DESIGN, UNIVERSITY OF MUMBAI
(EXAM SHALL BE CONDUCTED BY UNIVERSITY OF MUMBAI)

SR. NO.	SUBJECTS	TEACHING SCHEME			EXAMINATION SCHEME				SESSIONAL MARKS			
		TERM I AND II			NO. OF PAPERS	DURATION IN HOURS	PAPER MARKS	MIN. PASSING MARKS	INTERNAL		EXTERNAL	
		LECTURE PERIODS	STUDIO PERIODS	TOTAL PERIODS					MAX. MARKS	MIN. PASSING MARKS	MAX. MARKS	MIN. PASSING MARKS
4.1	Architectural Design-IV	---	256	256	---	---	---	---	300	150	600	300
4.2	Theory & Design of Structures-IV	128	---	128	1	3	100	40	50	25	---	---
4.3	Architectural Building Construction-IV	64	128	192	1	3	100	40	100	50	100	50
4.4	Town and Urban Planning-I	64	128	192	1	3	100	40	100	50	---	---
4.5	Building Services-III	64	96	160	1	3	100	40	100	50	100	50
4.6	Building Byelaws-I	32	---	32	---	---	---	---	50	25	---	---
4.7	Design Dissertation-I	---	128	128	---	---	---	---	---	---	---	---
4.8	Professional Practice-I	64	---	64	---	---	---	---	---	---	---	---
4.8	Electives	---	128	128	1	3	100	40	100	50	---	---
4.10	Commercial Interior Design-I theory-II	32	---	32	---	---	50	20	---	---	---	---
4.11	Commercial Interior Design-II Practical-I	---	128	128	---	---	50	20	---	---	---	---
4.12	Commercial Interior Design-II Practical-II	---	128	128	---	---	50	20	---	---	---	---
4.13	Project Studio-I	---	128	128	---	---	50	20	---	---	---	---
4.13	Interior Professional Management	64	---	64	---	---	75	30	---	---	---	---
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SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.1 ARCHITECTURAL DESIGN-IV

Teaching Hours

Lecture : -----
 Studio : 128 Periods of 45 Minutes each (96 Hours)

Sessional Marks

Internal : 100
 External : 50

Examination Scheme

Duration : 6 Hours
 Marks Max. : 50
 Marks Min. : 20

Design problem shall consider:

- Methods of Construction, Theory of Structures, materials, Building Services studied up to 3rd Year.
- Climatic conditions
- User requirements
- Communication
- Data Collection, Analysis and Utilisation.
- Transportation & traffic pattern
- Landscape
- Site condition and Analysis
- Socio-economic Problems

Design Problem shall consider the above and planning shall deal with the masses in relation to conservation of spaces, transportation and multiple activities such as regional bus terminal, domestic airport, 3 star Hotel, multi storied office building, etc. From this year and hence forth students will be expected to enlarge the design brief in incorporating through research of ancillary requirements related to various functions forming part of the design problem. And the areas of various functions shall be based on data collected by the students themselves. This independent research, analysis and data collection for the design problem will form basis to prepare them to deal with the Dissertation topic to be done in 2nd Term.

STAGE-II

Design problem shall be for group of building or complex for masses for multiple activities on one site such as community centre, Educational complex etc. Student shall now, in planning, concentrate on image building concepts.

Sessional Work

Two design problems as per syllabus for entire 4th Year. However contents of both design problems may be combined if College desires to do so. Quantum of work shall remain as stated in the syllabus sizes of drawing shall be max A/O size and may be prepared with the help of Computer.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.2 THEORY AND DESIGN OF STRUCTURES-IV

Teaching Hours

Lecture : 128 Periods of 45 Minutes each (96 Hours)
Studio : -----

Sessional Marks

Internal : 50
External : -----

Examination Scheme

Duration : 3 Hours
Marks Max. : 100
Marks Min. : 40

OBJECTIVES

- Understanding complex structural systems
- Understanding failure of structures
- Understanding tall structures
- Understanding computer simulation

1. COMPLEX STRUCTURAL SYSTEMS:

- Basic principles of analysis and design, theoretical concepts & specifications for structural systems like arches, folded plates, cable structures, pre-stressed concrete structure, air inflated structures, circular and rectangular water tanks, Retaining walls, diaphragm and basement walls etc.
- Theory of design of raft and pile foundations, flat slabs combined and eccentric footings.
- Selection criteria for above type of structures

2. FAILURE OF STRUCTURES:

- Types of failure in various structures
- Causes of failure
- Evaluation of damage
- Non destructive testing techniques
- Techniques to prevent collapse/ failure of structure
- Repair and rehabilitation of structures

3. TALL BUILDINGS:

- Theory and principles for structural design of tall buildings
- Study of different existing buildings
- Aseismic configurations
- Introduction to advanced intelligent structures
- Matrix stiffness method and finite element method

Sessional Work:

- Structural detailing of raft slab, combined footing.
- Compute simulation of structural modelling/analysis/ design.
- Understanding the basic working of few software packages with respect to type Input and Output of data.
- Interpretation of output information
- Practice with few software packages
- Designing a G+1 structure on Computer.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.3 ARCHITECTURAL BUILDING CONSTRUCTION-IV

Teaching Hours

Lecture	:	64 Periods of 45 Minutes each (48 Hours)
Studio	:	128 Periods of 45 Minutes each (96 Hours)

Sessional Marks

Internal	:	100
External	:	100

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min.	:	40

Advanced Foundations

Combined and eccentric footing, raft foundations, pile foundations, details of pile and pile cap, sheet piling and diaphragm wall in timber, RCC and Steel, buoyant foundations, basements and methods of water proofing.

Advanced Floors

Flat slab, diagonal and rectangular ribbed floor, hollow floors (Capstore), reinforced brick floors.

Canopies and Balconies

Canopies for office buildings in RCC, steel, glass and cinema balconies in RCC and steel with false ceiling and concealed lighting

Furniture Design

Counters of various types for enquiry, bar and bank, cooking ranges, room divider furniture, built in ward robe, speakers rostrum etc.

Sound Proof Construction

Sound Proof Partitions and doors for recording studios, cinemas, broadcasting studios etc.

Sessional work based on above topics.

Maximum 10 drawings to be prepared based upon the topics stated in the syllabus.

All drawings shall be max A/O size and may be prepared with the help of computer.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.4 TOWN & URBAN PLANNING

Teaching Hours

Lecture	:	64 Periods of 45 Minutes each(48 Hours)
Studio	:	128 Periods of 45 Minutes each(96 Hours)

Sessional Marks

Internal	:	100
External	:	-----

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min.	:	40

PLANNING-I

Course Objectives:

- To introduce to the subject of urban, rural and regional planning to students of architecture.
- To enable the students to relate the architectural projects in context of planning in rural, urban & regional context.
- To create awareness on the need for planning for development and conservation.
- To develop basic skills in planning surveys, analysis, generating alternative planning strategies and evaluation of options and preparation of plans.
- To give the students opportunities to address the issues in planning through project work.

Course Contents (Theory)

1. Social and Economic basis for planning.

Understanding the social, cultural and economic basis for planning. The evolution of Society from tribal, rural and urban to present time. Relationship between social structure and spatial structure. The need for social, economical and physical, technical & environmental planning as a part of comprehensive planning system.

2. History of Human settlements.

The relationship between the nature of society & planning of human settlements. Indus Valley Civilisation, ancient Indian planning, medieval planning in India, Introduction to planning in other Civilisations such as Egyptian, China, Mesopotamia, Greek and Roman.

3. Planning Theory

The evolution of planning theory incorporating the aim & objects of planning. Understanding planning as a social, economical, political, technical & environmental process of shaping of living environment. Development plan, structure plans, scope & objectives, planning as an integrated systematic activity related to different sectors of economy. Understanding planning as a multilevel comprehensive process of development through local, urban, rural, regional and national planning.

4. Planning techniques

The students shall be introduced to planning practice in India. Methods of identifying urban and regional problems, setting of goals, objectives & priorities. Performance standards, spatial standards of utilities. Introduction to surveying and analytical techniques including household survey, local area surveys, land use surveys, landscape survey, transportation surveys & services survey. Analysis of housing stock, areas needing priority attention target group. The students shall be required to undertake survey & analysis of a given rural/urban setting which shall be carried out as a group project. The area to be analysed shall be about 10-15 Ha.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

5. The evolution of modern planning concepts

Industrial revolution and urban growth. Migration & urban population explosion. The human, social & environmental problems & issues in Indian Context. The need for modern planning.

Early beginnings of modern movement in town planning. Garden cities, radiant city and linear city concepts. The contribution by Sir Ebenezer Howard, Le Corbusier, Tony Garnier.

6. Development of New Town and Cities

Study of new towns in India, such as Chandigarh, Bhubaneswar, Gandhinagar & Navi Mumbai.

Sessional Work Based on above topics

The students shall be assigned a planning project to be done in a group of 3-5, covering an area of about 10-15 ha in a residential/commercial/industrial/recreation/ mixed user zone in an urban context incorporating different housing typologies for various income & social groups. The presentation shall include land use/ transportation/ landscape/services/social facilities plan, details of housing types & a report with model.

Evaluation process

The students shall be required to submit their portfolio containing the following:

- a) The survey and analysis of an area of about 10-25 ha in rural/ urban context
- b) Planning proposal for a housing area of about 10-25 ha in rural/urban context.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.5 BUILDING SERVICES-III

Teaching Hours

Lecture	:	64 Periods of 45 Minutes each (48 Hours)
Studio	:	96 Periods of 45 Minutes each (72 Hours)

Sessional Marks

Internal	:	100
External	:	100

Examination Scheme

Duration	:	3 Hours
Marks Max.	:	100
Marks Min.	:	40

OBJECTIVES

- a) Studying advanced and specialised services for complex buildings.
- b) Applying in architectural design and preparing layout and details.

HVAC (HEATING VENTILATION & AIR CONDITIONING)

- Natural ventilation
- Heating of spaces- local and central heating.
- Heating equipments
- Comfort conditions, temperature control, humidity control, air filtration, rate of ventilation.
- Mechanical ventilation of Buildings.
- Plenum system, exhaust system, Plenum and exhaust system.
- Fans, Blowers and Air-Filters.
- Thermal Conductivity and Insulation.
- Air-conditioning- refrigeration and air cycle.
- Various systems of air conditioning- Unit, Split, Package, Direct Expansion & Chilled water System.
- Duct work and air conditioning layout, fittings and fixtures.

FIRE REGULATIONS AND DESIGN REQUIREMENTS

- Fire, causes of fire and spread of fire.
- Fire fighting, protection and fire resistance.
- Fire fighting equipment and different methods of fighting fire.
- Code of safety, the fire regulations, fire insurance.
- Combustibility of materials.
- Structural elements and fire resistance
- Fire escape routes and elements- planning and design.
- Wet risers, dry risers, sprinklers, smoke detectors, fire dampers, fire doors, water curtains.

BUILDING ACOUSTICS

- Terminology in acoustics- factors influencing hearing conditions.
- Sound in spaces, between spaces, effect of openings and surfaces.
- Criteria for acoustical environment, criteria for reverberation in spaces reverberation time.
- Background noise, structure borne sound.
- Sound absorption, acoustical material
- Sound isolation for equipments.
- Acoustics for auditoriums and lecture halls.
- Design for good hearing, loudness and distributing, reflection & diffusion of Sound
- Various Sound amplifying systems.

Sessional Work: Application of above studies in current design problems and preparing design layout and details.

Drawings on max A/D size to be prepared on the following topics stated under syllabus, for design prepared during 3rd or 2nd term. Drawing may be prepared with the help of computer.

- a) Mechanical ventilation layout for Kitchen/Internal Toilets/Basement/ Car park etc.
- b) Air Conditioning layout for Auditorium/ Office/ Restaurant etc.
- c) Fire Fighting Layout indicating all provisions required by fire authority.
- d) Acoustical details of Auditoriums/Seminar Hall/ Conference Room indicating all acoustical requirements and calculations.

**DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI**

FOURTH YEAR ARCHITECTURE WITH INTERIOR.

4.6 BUILDING BYE LAWS -I

Teaching Hours

Lecture : 32 periods of 45 mins each (24 Hours)
Studio :

Sessional Marks

Internal : 50
External :

Examination Scheme

Duration :
Marks Max. :
Marks Min. :

Survey of Bombay Municipal Corporation Act, 1888, with reference to Building Projects.

Study of Town Planning Act of 1954 in so far as it regulated the growth of built environment of Bombay till 1967.

Implications of the Development Control rules of greater Bombay as approved by Government of Maharashtra on contemporary growth of built environment of Bombay.

Comprehensive study of Building Bye-laws relating to the strength and stability of structures, bye-laws relating to light and ventilation, sanitation and buildings.

Study of special provisions in bye-laws in respect of factory and amusement buildings.

Tenures of land in Maharashtra State.

Sessional work based upon above topics.

SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.7 DESIGN DISSERTATION -I

Teaching Hours

Lecture :

Studio : 128 periods of 45 mins each (96 Hours)

Sessional Marks

Internal : 100

External :

Examination Scheme

Duration :

Marks Max. :

Marks Min. :

Scope for design consideration ;

Design dissertation on a topic (project) approved by the college separately for each student and each student shall carry out dissertation considering the following aspect :

Method of construction, advances technology (concrete and steel) advances building services, climatology, theory of structures studied up to 4th and 1st term of 5th year.

Research analysis and data collection

Site selection and justification

User requirements and justification

Climatic conditions

Socio-economic problems

Communications

Transportation

Landscape and town / urban planning

Each students work shall include intensive dissertation on the above points and shall include brief on selection of site, methodology of dissertation, designing of the selected project and proper presentation of the drawings as volume I and detail of the site, its analysis and justification, case studies and analysis, data, brief on structural system and services selected for the project, programme for the selected project, etc as volume II

Design dissertation work as per volume I and volume II above prepared by the student during 2nd term of the 4th year and 1st term of 5th year shall be examined by an external jury appointed by UNIVERSITY OF MUMBAI.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.8 PROFESSIONAL PRACTICE -I

Teaching Hours

Lecture : 128 periods of 45 mins each (96 Hours)
Studio :

Sessional Marks

Internal :
External :

Examination Scheme

Duration : 3 Hrs
Marks Max. : 100
Marks Min. : 50

Office :

Office set up and administration
Filing and recording of letters and drawings
Nature of partnership, registration of firm and dissolution.
Practice procedure and conduct, membership of Professional Organisation.
Architects Registration Act
Code of Professional Conduct
Code relation to Architectural competition
Architects Services and scales of normal and partial fees
Architect Act 1972 for registration
Copy rights of drawings.

Tenders :

Types of tenders and tender document, tender draft notices and inviting tenders.
Procedure for opening and selecting of tenders.
Analysis and report to owner.
Work Order.

Contract

Types of contract and contract documents, detailed knowledge about various conditions to contract as published by the Indian Institute of Architects and specially about ;

Earnest Money	Variation and extras
Security Deposit	Defects after completion
Retention Money	Certificated and Payments
Mobilisation Fund	Insurance and fire Insurance
Bank Guarantee	Liquidate damage
Architects Instruction	Termination of the contract

Clerk of works

Arbitration clause

- ❖ Arbitration, Conciliation and Mediation
- ❖ Arbitration proceedings and Awards

Duties and liabilities in profession

Legal responsibility of architect to Employer

Government bodies and local bodies

Express and implied authority of the Architect

Architects relationship with the Client and the Contractor

Duration of liability

Consumer Protection Act 1986.

Note : Topics marked by Asterisk (*) shall be dealt with by the teacher in general but sufficient to impart knowledge on its use and application without going into detail in its legal aspects.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.9 ELECTIVES

Teaching Hours

Lecture :

Studio : 128 periods of 45 mins each (96 Hours)

Sessional Marks

Internal : 100

External :

Examination Scheme

Duration :

Marks Max. :

Marks Min. :

Any one of the subjects belonging to –

Design group – Housing, Urban design, Ekistics, Transportation, Town planning and Landscape Architecture (Divergent). Interior Design, conservation, Urban Geography, Environment.

Building Technology and Building Services groups – professional practice valuation (convergent) Building Management, Sustainable Building technology, Computer (3D studio & animation)

The elective so chosen should ordinarily be belonging to the complementary groups as far as the subject for Dissertation. However, an exception could be made in case of a candidate who wants to correlate work in this subject to that of the dissertation.

A satisfactory completion in the elective will be a pre requisite to taking 4th year examination.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR
UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.10 COMMERCIAL INTERIOR DESIGN THEORY-II

Teaching Hours

Lecture : 32 Periods of 45 mins. each. (24 Hours)
Studio : -----

Sessional Marks

Internal : -----
External : -----

Examination Scheme

Duration : 2 Hours
Marks Max. : 50
Marks Min : 20

Brief description of the course:

This course deals with experience in designing & drawing interior schemes for commercial spaces, considering principles of design, anthropometric data, ergonomical evaluation, etc.

Objectives:

1. To develop detailed visualization and designing of various commercial interior schemes.
2. To develop skill in selection of appropriate materials for various surfaces.

Course outline:

1. Introduction of large commercial interior spaces from design point of view.
2. Study of factors influencing furnishing of large commercial spaces.
 - a) Location.
 - b) Space requirement.
 - c) Needs and preferences.
 - d) Availability of materials.
 - e) Design principles.
 - f) Financial limits.
3. Consideration of ergonomics for commercial interior space design.
4. Study of different work centers for large commercial interior spaces.
5. Study of environmental factors.
6. Study of different body postures used in different activities & its relation to fatigue.
7. Plants, different landscape elements, etc.

Reference:

1. Alexander N.J & McCourt brace. – **Designing Interior environment** - Havanovich inc. 1972.
2. Grandjean Efiens – **Ergonomics of the Home** - Taylor & Framis Ltd. London (1978).
3. Hargan C.T & Cook J.S. – **Human energy gives to Equipment design** - Mc. Graw Hill, New York.
4. Osborne David – **Ergonomics at work** - Chichester John Wiley, London.
5. Roger, Yee and Karen Gustafson – **Corporate design** - Thames and Hudson.

4-9
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.11 COMMERCIAL INTERIOR DESIGN PRACTICAL-II

Teaching Hours

Lecture	:	-----
Studio	:	128 Periods of 45 Minutes each (96 Hours)

Sessional Marks

Internal	:	100
External	:	50

Examination Scheme

Duration	:	6 Hours
Marks Max.	:	50
Marks Min.	:	20

Brief description of the course:

This course gives experience in drawing interior schemes for commercial spaces considering principles of design, anthropometric data, etc. It also includes presentation drawing with complete estimation and model of one of the schemes.

Objectives:

1. To develop detailed visualization and the drawing of various commercial interior schemes considering the principles.
2. To develop the skill in selection of appropriate materials for various surfaces.

Course outline:

1. Study of commercial area furniture items.
2. Study of large commercial interior space design (larger than 50 sq.m) such as offices, banks, restaurants, hotel spaces, polyclinic, etc.
3. Estimation of any one of the schemes.
4. Details of any one of the schemes. (few interesting items)
5. Flattened model of large commercial area.

References:

Same as for

- a) Residential Interior Space Design (Practical) references.
- b) Commercial Interior Space Design (Theory) references.

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.12 PROJECT STUDY

Teaching Hours

Lecture :

Studio : 128 periods of 45 Minutes each.(96 Hours)

Sessional Marks

Internal : 75

External : 25

Examination Scheme

Duration : ----

Marks Max. : ----

Marks Min. : ----

Brief description of the course:

This course deals with training the students for research oriented study and project and also public presentation of the same.

Objectives:

1. To train students to learn and to find related reference materials.
2. To train students to learn critical appreciation of the cases and to analyze, condense and evaluate the activities and reports.
3. To train students to survey, to interview, to summarize the study.
4. To help students to develop an ability to effectively present the dissertation (research study) project.

Course outline:

1. Introduction of Indepth study / Project & selection of topic of Indepth study / Project study.
2. Procedure to conduct the study: written chapter wise presentation
 - a) Introduction of topic: what is the topic, why this topic selection (objectives), how the study will be conducted (methodology)
 - b) Review of literature: reviewing the related books, magazines, papers, etc to find out the standards, ideals, properness, etc related to the topic matters.
 - c) Case study: similar cases (existing interiors, components, environments) be studied to analyze and to evaluate how far the design or the matter is as per standards or ideals and on the basis of all, merits and demerits be listed out.
 - d) Suggestions: general suggestion for the design approach, composition and criteria be listed out.
 - e) Recommendations (proposal for project): Considering the practical aspect of spaces available in existing interiors, alternatives be drawn, one of the alternative be detailed out with respect to needed drawings, costing etc be prepared.
 - f) Conclusion: justification of the topic study & evaluating that how far the objectives listed out have been met with?
 - g) Bibliography: listing out books referred to conduct the study as under; In alphabetical order – Name of book Name and address of publisher name of author. with year of publishing.
3. Guidance to the students by respective guide appointed by the institute.
4. Presentation of the dissertation / project.

Reference:

1. Dr.Kamat & Dr. Udipi. – Research method. Dept. of P.G.Studies and research S.N.D.T. Women's University, Juhu, Mumbai 400 049.

51
SYLLABUS

DEGREE OF BACHELOR OF ARCHITECTURE WITH INTERIOR

UNIVERSITY OF MUMBAI

FOURTH YEAR ARCHITECTURE WITH INTERIOR

4.13 INTERIOR PROFESSIONAL MANAGEMENT

Teaching Hours

Lecture : 96 periods of 45 Minutes each (72 Hours)
Studio : -----

Sessional Marks

Internal : -----
External : -----

Examination Scheme

Duration : 3 Hours
Marks Max. : 75
Marks Min. : 30

Brief description of the course:

This course deals with professional management, conduct, estimate, tender formalities, contract, etc. including the presentation of abstract (schedule of items).

Objectives:

1. To study the maintenance, cost aspects and code of professional management.
2. To understand the professional aspect to execute the scheme.

Course outline:

1. Introduction to management.
2. Management concept.
3. Internal aspects of management:
 - a) Office management.
 - b) Code of conduct.
 - c) Scale of professional fees and charges.
 - d) General accounting terms -- balance sheet, assets, liabilities, profit & loss account, petty cash book, cash book, ledger, etc.
 - e) Duties of employees under the labour welfare association.
 - f) Structure of an Interior Designers office.
 - g) Science of business management and the Interior Designer / decorator.
 - h) Conditions of Engagement
- Estimating
 - b) Definition
 - c) Importance of estimating.
 - d) Types of estimating: Rough order of magnitude of cost, Builtup area & carpet area basis, Cubic content basis.
 - e) Units and mode of measurements.
 - f) Rate analysis -- stool, table, cupboard, etc with short description writing.
 - g) Taking of Quantities.
 - h) Bill of quantities (schedule of items).
 - i) Brief specifications.

References:

1. Drucker, Peter F. -- **The Effective Executive** - William Hermann Ltd. London 1969.
2. Drucker, Peter F -- **Innovation and Entrepreneurship Practice & Principles** - William Hermann Ltd. London 1969.
3. Drucker, Peter F -- **Management tasks, Responsibilities and Practices** - Allied, Bombay 1976.
4. Laboeuf Michael -- **The Greatest Management Principles in the World** - Brokely books, New York.
5. Roshan Namavati -- **Professional Practice (Estimating and Valuation)** - Lakhani book depot, Bombay 1984.
6. Sieget Harry & Seigal Alan -- **A Guide to Business Principles and Practices for Interior Designers** - New York 1982.

TEACHING AND EXAMINATION SCHEME FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN, UNIVERSITY OF MUMBAI												
SR. NO.	SUBJECTS	TEACHING SCHEME			EXAMINATION SCHEME				SESSIONAL MARKS			
		TERM I AND II			NO. OF PAPERS	DURATION IN HOURS	PAPER MARKS	MIN. PASSING MARKS	INTERNAL		EXTERNAL	
		LECTURE PERIODS	STUDIO PERIODS	TOTAL PERIODS					MAX. MARKS	MIN. PASSING MARKS		
TERM-I												
5.1	Design Dissertation	-	192	192	-	-	-	-	450	225	450	225
5.2	Professional Practice-II	64	-	64	1	3 Hours	100	40	50	25	-	-
5.3	Advanced Building Construction	32	64	96	-	-	-	-	150	75	150	75
5.4	Working Drawing	-	64	64	-	-	-	-	100	50	100	50
TOTAL				416			100	750		700		350
TERM-II PROFESSIONAL TRAINING OF 16 WEEKS												
5.5	Professional Practice	-	-	-	-	-	-	-	-	-	200	100
											200	

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

5.1 DESIGN DISSERTATION

Teaching Hours

Lecture	:	
Studio	:	192 periods of 45 mins each (144 Hours)

Sessional Marks

Internal	:	300
External	:	600

Examination Scheme

Duration	:	 Note : Syllabus as perscribed
Marks Max.	:	 At the 4 th Year Architecture to
Marks Min.	:	 be continued in the first term of 5 th Year

Scope for design consideration :

Design dissertation on a topic (project) approved by the college separately for each student and each student shall carry out dissertation considering the following aspect :

Method of construction, advance technology (concrete and steel), advances building services, climatology, theory of structures studied up to 4th and 1st term of 5th year.

Research analysis and data collection

Site selection and justification

User requirements and justification

Climatic conditions

Socio-economic problems

Communication

Transportation

Landscape and town / urban planning

Each students work shall include intensive dissertation on the above points and shall include briefs on selection of site, methodology of dissertation, designing, of the selected project and proper presentation of the drawings as volume I and detail of the site, its analysis and justification, case studies and analysis, data, brief on structural system and services selected for the project, programme for the selected project, etc as volume II

Design dissertation work as per volume I and volume II above prepared by the student during 2nd term of the 4th year and 1st term of 5th year shall be examined by an external jury appointed by UNIVERSITY OF MUMBAI.

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

5.2 PROFESSIONAL PRACTICE - II

Teaching Hours

Lecture : 64 periods of 45 mins each (48 hours)
Studio :

Sessional Marks

Internal : 50
External : 100

Examination Scheme

Duration : 3 hrs
Marks Max. : 100
Marks Min. : 50

Instruction in the following should be such as to understand the purpose and implication of its application, instruction to the students should be general without going too much in detail in legal aspects.

- Acquisition.
- General principles of land acquisition with reference to norms of compensation.

Purpose of acquisition :

- Elements of valuation – market value methods of valuation, specially income capitalization technique and physical method of valuation.
- Elementary example including one for ownership flats and premises. Building up or determining rate of capitalization based on gilt-edged theory and generally investment market theory.

Valuer and his function, including registration.

Meaning of immovable property – ownership and possession.

Joint tenancy and tenancy in common

Different types of tenures of land – as commonly found leasehold and freehold and lease and other rents.

Rent – different types of rent – standard rent, example on working out of standard rent. Rateable value and its relation to rent – nature and purpose of rateable value.

Definition of property – ownership – possession – joint tenancies and tenancy in common – types of tenure with special reference to freehold and leasehold tenure. Principle types of landed properties – their outgoings calculation of rented value and not income market value.

Principles governing the rate of interest required for different types and class of properties – gilt edged securities.

Application of the above principle to elementary example of valuation of properties with freehold and leasehold tenure.

Valuation ; Ownership basis flats.

Use in practice (construction is not contemplated)

Gross annual value rateable value and their application

Note on Sessional work to be done – Each student is required to submit his report, observations and procedure in regular journals on the following topics. –

Report on ancient lights.

55
SYLLABUS

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

Report on dilapidations and repairs.
Valuation report of a property be done.
Report on acquisition of property

Easement of Light, Ventillation & Access.

All Acts Related to Non Agriculture Lands in relation to Building Activities related to regions such as M.R.T.P., M.H.A.D.A. & M.M.R.D.A Acts.

Note ; Topics marked by asterisk (*) shall be dealt with by the Teacher in general but sufficient to impart knowledge on its uses and application without going into detail in its legal aspect.

Submission of Sessional work to Internal jury on any of the following topics including those listed in professional Practice II

Dilapidattions
Procedure for preparing report and schedule of dilapidations
Settlement of claim
Law relating to structural and general repairs.
Fire insurance
Insurance policy and cover note
Duties of Architects with respect to insurance policy for contract work
Fire loss assessment claim and report
Insurable value of the property.

56
SYLLABUS

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

5.3 ADVANCED BUILDING CONSTRUCTION

Teaching Hours

Lecture : 32 periods of 45 mins each (24 Hours)

Studio : 64 periods of 45 mins each (48 Hours)

Sessional Marks

Internal : 150

External : 150

Examination Scheme

Duration :

Marks Max. :

Marks Min. :

FIRST TERM

Communication Systems – Lifts of various types such as passenger, goods, hospital etc. (with special reference to Design of lift cage) Escalators.

Arches and Portals – Arches and portals in RCC Steel and Laminated timber construction.

Domes, Shells, and Folded Plates – Folded plates and barrel shells, hyperbolic paraboloids, and domes in RCC, Geodesic domes, and space frames.

Prestressed Concrete – Precast prestressed construction for large span structures (general principle and application only).

Prefabricated Housing Construction – Methods of Prefabrication of components of a Building and their assembly, aspect of economy involved in larger repetitive work such as community housing etc.

Sessional Work based upon above topics. Constructional details and concise report on method of construction and materials selected for Design project for 4th year.

57
SYLLABUS

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

5.4 WORKING DRAWING

Teaching Hours

Lecture :
Studio : 64 periods of 45 mins each (48 Hours)

Sessional Marks

Internal : 100
External :

Examination Scheme

Duration :
Marks Max. :
Marks Min. :

Working drawing of Frame Structure for Design Problem done during 4th year
Architecture indicating to appropriate scale :

1. Foundation Plan
2. Floor Plan
3. Elevation and Sections as necessary
4. working details of interesting part of building.

58

DEGREE OF ARCHITECTURE WITH INTERIOR DESIGN

UNIVERSITY OF MUMBAI

FINAL YEAR ARCHITECTURE WITH INTERIOR DESIGN

5.5 PROFESSIONAL TRAINING

16 WEEKS TRAINING PERIOD

Sessional Marks

Internal	:	
External	:	200

Examination Scheme

Duration	:	
Marks Max.	:	
Marks Min.	:	

Professional Experience

During the second term the students have to undergo practical training out-side the institute, in such offices / organizations as will give him the necessary opportunity to improve and consolidate his architectural knowledge.

During his practical training, he is expected to work in accordance with the discipline of the organisation and will make progress which will be carefully watched by the institution and the student will have to satisfy his employer as well as the institution. The student will give a report of his experience giving the type of experience he has gained.

Logbooks will have to be maintained by the students and counter signed by the Principal of the firm as also the year master who will also co-ordinate training in the office as also educational objectives.

Proforma for professional experience –

Name of the student (Academic Year)
Surname / Father's name / students first name
(Name of office / organisation with address)

- (i) Date of joining
- (ii) Date of leaving

Employers report ; Brief details of the experience gained by the student stating the nature of work done.

Employers Opinion about students training any suggestion.

Signature
Professor in-charge

Signature
The Employer

Vice Voce shall be taken at the end of the training period by the University. The students are required to present log book, The examiners at Vive Voce shall examine the students on the topics of Part I and Part II of Professional Practice and the Professional Training.

FIRST YEAR ARCHITECTURE WITH INTERIOR DESIGN

O--- A candidate for being eligible for admission to the First Year of the Bachelor of Architecture with Interior Design Course of this University:

(i) Must have passed the Higher Secondary School Certificate Examination conducted by the Maharashtra State Board of Secondary Education, Poona, or an examination recognized as equivalent thereto, with the following subjects, viz.

Mathematics and Statistics

AND

(ii) The candidate must have passed the Aptitude Test conducted by the Competent Authority to be eligible for admission to the Bachelor of Architecture with Interior Design Course

O--- A candidate for being eligible for the First Year Architecture with Interior Design Examination of this University:

- a) must have kept satisfactory attendance for two academic terms of First Year
- b) must have obtained required marks to clear all internal subject heads (Sessional Work) of passing for First Year examination.

R--- To pass the First Year Architecture with Interior Design examination the candidate must obtain

40% of the full marks in Theory papers,

50% of the full marks in External viva voce, and

50% of the full marks in all internal subject heads (Sessional Work) of passing

However, the candidate who has failed in some Theory papers or some External viva voce, but has obtained passing marks in other Theory papers and other External viva voce and in *all* Sessional Work, shall at his/her own option be excused from appearing in the Theory papers or External viva voce in which he/she has passed, and the marks obtained in the Theory papers and External viva voce and Sessional Work in which he/she has passed shall be carried over to the subsequent examination.

R--- Those successful candidates who have obtained 59% of the total marks obtainable in the examination taken at one sitting only shall be placed in the Second Class. Those successful candidates who have obtained 60% of the total marks obtainable in the examination taken at one sitting only shall be placed in the First Class. Those candidates passing the examination of the First Year at one and the same sitting only shall be eligible for the award of prize, medal or scholarship.

R--- The candidates shall be examined in the following subjects as per the examination scheme of the First Year Examination in Architecture with Interior Design which will be conducted by the college affiliated to this University.

R--- The following are the syllabi in various subjects of the First Year of Architecture with Interior Design: