

UNIVERSITY OF MUMBAI



Syllabus for the Bachelor of Architecture

Programme : B.Arch.

**Bachelor of Architecture
(Semester VII & VIII)**

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

Item 4.21 AC 19-9-13

Scheme of Teaching and Examinations Bachelor of Architecture (B. Arch.)

Semester VII

| Semester VII Exam conducted by college | | Teaching Scheme | | Credits | | |
|---|--|-----------------|--------------------------------------|---------|--------|-------|
| Sub. No. | COURSES | Lecture | Studio | Theory | Studio | Total |
| BARC 701 | Architectural Design Studio 7 | | 8 | | 8 | 8 |
| BARC 702 | Allied Design 7 | 2 | 2 | 2 | 2 | 4 |
| BARC 703 | Architectural Building Construction 7 | 3 | 3 classes of technology studio | 3 | 1 | 4 |
| BARC 704 | Theory and Design of Structures 7 | 2 | | 2 | 1 | 3 |
| BARC 708 | Architectural Building Services 5 | 2 | | 2 | 1 | 3 |
| BARC 707 | Architectural Representation & Detailing 7 | 2 | 3 | 2 | 3 | 5 |
| BARC 710 | Professional Practice 1 | 3 | | 3 | | 3 |
| BARP 720 | College projects 7 | | 3 | | 3 | 3 |
| BARE 721 | Elective 7 | | 3 | | 3 | 3 |
| | Total | 14 | 22 | 14 | 22 | 36 |

| Semester V II Exam conducted by college | | Examination Scheme | | | |
|--|--|--------------------|----------|------------------|-------|
| Sub. No. | COURSES | Theory (paper) | Internal | External viva | Total |
| BARC 701 | Architectural Design Studio 7 | | 100 | 100 | 200 |
| BARC 702 | Allied Design 7 | | 100 | | 100 |
| BARC 703 | Architectural Building Construction 7 | 50 | 50 | | 100 |
| BARC 704 | Theory and Design of Structures 7 | | 100 | | 100 |
| BARC 708 | Architectural Building Services 5 | 50 | 50 | | 100 |
| BARC 707 | Architectural Representation & Detailing 7 | | 100 | 100 | 200 |
| BARC 710 | Professional Practice 1 | 50 | 50 | | 100 |
| BARP 720 | College projects 7 | | 100 | | 100 |
| BARE 721 | Elective 7 | | 100 | | 100 |
| | Total | 150 | 750 | 200 | 1100 |

Syllabus (Course Content) for Fourth Year B. Arch. Semester VII

701 Achitectural Design Studio 7

Credits-8

Teaching Hours

Lectures- -----

Studio- 144 periods of 50 minutes duration -120 hours

Sessional marks-

Internal- 100

External ---100

Theme- Housing

Course Objectives

- Understanding typologies of housing in Urban Areas.
- Understanding quantitative and qualitative aspects of mass housing.
- Under standing user aspirations and user affordability

Expected Course out come

Design of housing schemes in urban area, along with necessary infrastructure, services, and amenities.

702 Allied Design

Credits-4

Teaching Hours

Lectures 36 periods of 50 minutes duration – 30 hours

Studio- 54 periods of 50 minutes duration – 45 hours

Sessional marks-

Internal- 100

External -----

The course content will be developed by the individual colleges as per their choice of Allied Design scheme.

Suggested Themes: town planning, Urban Design, Housing

703 Architectural Building construction 7
Credits-4

Teaching Hours-

Lectures-54 periods of 50 minutes duration- 45 hours

Studio- 54 periods of 50 minutes duration- 45 hours to be conducted as technology studio
(out of which 15 hours are considered for credit calculations)

Scheme of examination

Theory: one paper of three hours duration Max. Marks- 50 Min marks for passing- 20

Sessional marks-

Internal- 50 marks

External ----

Basement and Deep Foundations:

Single and multi level basements for Parking and Services.

Deep foundations using Piles.

Introduction to High rise buildings:

High rise buildings in RCC and Steel frame of varying structures

The construction process of high rise buildings

Introduction Earthquake Resistant Construction:

Earthquake resistant construction for Load bearing and Framed structures

704 Theory and Design of structures 7

Credits 3

Teaching Hours

Lectures- 36 periods of 50 minutes duration- 30 hours

Studio- 54 periods of 50 minutes duration- 45 hours

(to be conducted as technology studio out of which 15hours are considered for credit calculations)

Scheme of examination

Theory ---

Sessional marks-

Internal- 100

External ----

1.introduction to design of deep foundation

It is to be taught with an emphasis on their suitability with respect to different types of buildings and soil conditions and structural drawings (no calculation)

2.combined footings

1 rectangular footing

2 trapezoidal footing

3 strip footing

4 raft footing

3.piles footings

Pre cast and cast in situ piles and pile caps

4. Retaining walls

5.earth quake resistant structure

6. Theory and principles of structural design of tall buildings.

707 Architectural Representation and detailing 7

Credits 5

Teaching Hours

Lectures- 36 periods of 50 minutes duration-30 hours

Studio- 54 periods of 50 minutes duration – 45hours

Sessional marks-

Internal- 100

External ----

Theme – Project Specifications

Building By laws and Approval Drawings

Project specifications

Detailed specifications of various work items for a structure from excavation up to finishing in super structure.

- 1.Excavation- filling, timbering, trenches
- 2.Brick Masonry-
3. Stone Masonary
- 4.specification for R.C.C. work including mixing, placing, curing of concrete
5. Specifications for Fabrication and assembly of structural steel frame buildings
6. Rendering and plastering
- 7.Floor finishes
- 8.wall finishes
9. flooring cast in situ including I.P.S., Terrazo
10. Roof finishes in tiles and roofing sheets

Sessional work – Project specifications for a building to include above items.

Building by laws and Approval Drawings

- Introduction to Building bye laws and regulations- their need and relevance
- Study of National Building Code
- Implications of Development control rules for greater Mumbai as approved by Government of Maharashtra on contemporary growth of built environment of Mumbai.
- Calculations of built up area and F.S.I.
- Comprehensive study of Building Bye laws relating to the strength and stability of structures, bye-laws relating to light and ventilation, and sanitation of buildings.
- Various drawings required for approvals from Authorities, on the basis of by Development Control rules and by laws

Sessional work – Set of approval Drawings and reports.

708 Architectural Building services 5

Credits 3

Teaching Hours

Lectures- 36 periods of 50 minutes duration- 30 hours

Studio- 54 periods of 50 minutes duration- 45 hours

(to be conducted as technology studio out of which 15hours are considered for credit calculations)

Scheme of examination

Theory: one paper of two hours duration Max. marks- 50 Min marks for passing- 20

Sessional marks-

Internal- 50 marks

External ----

Theme- Heating, Ventilation, and Air conditioning

Comfort conditions- temperature control, Humidity control, air filtration, and air changes.

Heating of spaces- local and central heating- heating equipment

Thermal conductivity, and insulation.

Ventilation-

Mechanical ventilation in buildings-

Mechanical Ventilation in Basements

Fans, blowers, air filters

Air conditioning

Concept of refrigeration cycle, and air cycle

Systems of air conditioning- local and central

Duct work and air conditioning layouts

Fittings and fixtures

Sessional work

Case studies, market surveys, and drawings, based upon above.

710 Professional Practice 1

Credits- 3

Teaching Hours

Lectures- 54 periods of 50 minutes duration – 45hours

Studio- ----

Scheme of examination

Theory: one paper of two hours duration Max. marks- 50 Min marks for passing- 20

Sessional marks-

Internal- 50 marks

External ----

- **Introduction to Architectural profession,**
- Role of professional bodies

- Architect's Registration Act 1972
- The professional role, responsibilities, duties, liabilities of Architects
- Code of professional conduct
- Code relation to Architectural competition
- Copy-rights of drawings

Office

Office structures – Small practice, medium practice & Large practice.
Nature of partnership, registration of firm and dissolution

Office set up and administration

Task allocation – Work plans, monitoring the plans, review meetings, record keeping - –
Inward, Phone calls, Minutes of meeting, To do list, wish list-Time Management

Tenders

Types of tenders and tender document,
World Bank formats, Indian Banks Association guidelines, PWD, CPWD, Tender forms
Tender draft notices and inviting of tenders
Procedure for opening and selection of tenders
Qualification criteria, Bid capacity, freak rates, rate analysis..
Analysis and report to owner
Work order

Contract

Types of contracts and contract documents
Detailed knowledge about various conditions of contract as published by Indian Institute
of Architects and specially about
Earnest Money
Security Deposit
Retention Money
Mobilization Fund
Bank Guarantee
Architect's Instructions
Clerk of works
Variation and Extras
Defects after completion
Certificate and Payments
Insurance and fire insurance
Liquidate damage
Termination of Contract

720 college projects 7

Credits- 3

Teaching Hours-

54 periods of 50 minutes duration – 45 hours

Sessional marks-

Internal- 100

External -----

(to be developed by individual colleges)

The following is a representative list of what may constitute college projects:

Research and documentation, Seminars, Guest Lectures, putting up Exhibitions, Workshops, participating in Architectural Competitions or conducting Site Visits or Study Tours.

721 electives 7

Credits- 3

Teaching Hours

Studio- 54 periods of 50 minutes duration – 45 hours

Sessional marks-

Internal- 100

External -----

(to be developed by individual colleges)

Technology Studio

Credits and marks as per the scheme of examination for individual courses

Teaching Hours

Studio- 54 periods of 50 minutes duration – 45 hour

Objectives

Integration of courses
Combined studio time

Technology studio is the studio time for students where guidance for technical courses will be available.

Combined Studio classes to be used for Sessional work for individual courses as well as for integration of courses

**DETAILS OF SCHEME OF EXAMINATION
TO BE CONDUCTED BY COLLEGES.**

BACHELOR OF ARCHITECTURE: SEMESTER VII

| SUB. NO. | COURSES | No of Papers | THEORY | | | SESSIONAL MARKS | | | | Max Marks for the Course |
|--|--|--------------|----------|-----------|-----------------------|-----------------|-----------------------|-----------|-----------------------|--------------------------|
| | | | Duration | Max Marks | Min Marks for Passing | INTERNAL | | EXTERNAL | | |
| | | | | | | Max Marks | Min Marks for Passing | Max Marks | Min Marks for Passing | |
| BARC 701 | Architectural Design 7 | --- | ---- | --- | --- | 100 | 50 | 100 | 50 | 200 |
| BARC 702 | Allied Design 7 | ---- | --- | --- | --- | 100 | 50 | --- | ---- | 100 |
| BARC 703 | Architectural Building Construction 7 | 1 | 3 HOURS | 50 | 20 | 50 | 25 | --- | --- | 100 |
| BARC 704 | Theory and Design of Structures 7 | ---- | --- | --- | --- | 100 | 50 | --- | ---- | 100 |
| BARC 707 | Architectural Representation & Detailing 7 | --- | ---- | --- | --- | 100 | 50 | 100 | 50 | 200 |
| BARC 708 | Architectural Building Services 5 | 1 | 2HOURS | 50 | 20 | 50 | 25 | ---- | ---- | 100 |
| BARC 710 | Professional Practice 1 | 1 | 2HOURS | 50 | 20 | 50 | 25 | ---- | ---- | 100 |
| BARP 720 | College projects 7 | --- | --- | --- | --- | 100 | 50 | --- | --- | 100 |
| BARE 721 | Elective 7 | --- | --- | --- | --- | 100 | 50 | --- | --- | 100 |
| Total marks for the examination | | | | | | | | | | 1100 |

Notes: Theory, Internal sessional work, and External viva are considered as separate heads of passing

Total marks for the examination = 1100

Minimum marks for passing the examination= 550

Scheme of Teaching and Examinations B.Arch Semester VIII

| Semester VIII Exam conducted by University of Mumbai | | Teaching Scheme | | Credits | | |
|---|-------------------------|-------------------------------------|--------|---------|--------|-------|
| Sub. No. | COURSE | Lecture | Studio | Theory | Studio | Total |
| BARC 810 | Professional Practice 2 | Professional training of - 16 weeks | | | | 16 |

| Semester V III Exam conducted by University of Mumbai | | Examination Scheme | | | |
|--|-----------------------|--------------------|----------|---------------|-------|
| Sub. No. | SUBJECTS | Theory (paper) | Internal | External viva | Total |
| BAR T 811 | Professional training | | | 200 | 200 |

DETAILS OF SCHEME OF EXAMINATION TO BE CONDUCTED BY UNIVERSITY OF MUMBAI

BACHELOR OF ARCHITECTURE: SEMESTER VIII

| SUB. NO. | COURSES | No of Papers | Duration | Max Marks | Min Marks for Passing | SESSIONAL MARKS | | | | Max Marks for the Course |
|----------|-----------------------|--------------|----------|-----------|-----------------------|-----------------|-----------------------|-----------|-----------------------|--------------------------|
| | | | | | | INTERNAL | | EXTERNAL | | |
| | | | | | | Max Marks | Min Marks for Passing | Max Marks | Min Marks for Passing | |
| BARCT811 | Professional Training | --- | ---- | --- | --- | --- | --- | 200 | 100 | 200 |

Syllabus for Fourth Year B. Arch. Semester VIII

811 Professional Training

Credits-16

Teaching Hours

Lectures- -----

Studio- ----

Sessional marks-

Internal- ---

External ---200

Theme-Professional Training

During this term the students have to undergo training out-side the institute, in such offices / organizations as will give him/her the necessary opportunity to improve and consolidate his/her Architectural Knowledge.

During the practical training the student is expected to work in accordance with the discipline of the organization, and will have to make progress which will be carefully watched by the institution. The student will have to submit the a detailed report of the experience gained during the professional training.

Logbooks will have to be maintained by the students and counter signed by the principal of the firm , and also by the teacher in charge .

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|--|
| Pro forma for professional experience |
|--|

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|---------------|
| Academic year |
|---------------|

| |
|-----------------------|
| Name of the student - |
|-----------------------|

| |
|--|
| Name of the office / organization with address |
|--|

| |
|----------------------|
| Registration details |
|----------------------|

| |
|------------------|
| Date of Joining: |
|------------------|

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|------------------|
| Date of leaving: |
|------------------|

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| Employers report: Brief Details of the experience gained by the student stating the nature of work |
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|------------------------------|
| Signature of The employer |
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| Signature of Professor In charge |
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