

FIRST SEMESTER B.ARCHITECTURE
TEACHING SCHEDULE & SCHEME OF EXAMINATION-2012

Stream	Subject code	Subject	No of lectures/studio	Seminar/ Tutorial	Practical work	Total			Total Marks	Total Credit	Remarks/ Duration of Exams in Hour
							Int. Marks	Ext. Marks			
Core subject	BACH-101	Architectural Design -1	5	2	-	7	100	100	200		06
	BACH-102	Building Construction & Material-1	4	2	-	6	70	70	140		04
Allied subjects	BACH-103	Architectural Drawing-1	5	-	-	5	60	60	120		04
	BACH-104	Architectural Graphics-1	4	-	-	4	50	50	100		04
	BACH-105	Structure System-1	2	-	-	2	50	-	50		No university exam
	BACH-106	Workshop-1	-	-	2	2	40	-	40		No university exam
	HVPE-101	Human Value & Professional Ethics	3	-	-	3	40	60	100		03
	BTHU-101	Communication English-1	3	-	-	3	40	60	100		03
	BTHU-102	Communication English lab-1		-	2	2	30	20	50		No university exam
Total			26	4	4	34	480	420	900		
Notes-											

B.ARCHITECTURE-IST SEMESTER-2012
ARCHITECTURAL DESIGN AND THEORY-I
BACH 101

University Exam Marks - 100

Sessional Marks - 100

Duration of Exam - 06 hrs. (Evaluation to be done through viva- voce by external examiner)

No. of contact hrs. - 07per week

INTENT

To introduce Architectural Design to students through Basic Design.

The main aim of the course is to get the students interested in and to familiarize them with the art of design and architecture. To enhance and promote visualization, expressional skills and sensitivity to surrounding environment.

Making student learn the art of collecting data and to carry out analysis for the process of evolving design and individuality of approach.

CONTENTS

Two & Three dimensional Design Exercises involving real and imaginary objects, drawing compositions and models made of matchsticks, cardboard, wires, wood pieces etc. to form an appropriate base for subsequent Architectural design and theory.

UNIT-I

PART A (Theory) Max.Marks -40

1. Introduction to Basic Design
2. Objectives of Design
3. Basic Elements of Design
4. Principles of Design

PART B

1. Scale and proportion in Architecture.
2. Anthropometrics dimensions including physically challenged persons

UNIT-II (Application and Experience) Max.Marks-60

- 1 2D compositions with basic geometric shapes, color, texture and pattern.
- 2 Door elevation
- 3 Carpet design, Backdrop of stage
- 4 Mural with geometrical shape
- 5 Floor tile design & paving patterns.
- 6 Sky line of city/village
- 7 Experience in 3D Design, compositions with simple forms like cube, cuboids, cylinder, cone, prism etc.
- 8 Compositions with 3-D Objects. **(Black & white and colours.)**

GUIDELINES

1. **Four questions** are to be set from **unit-I**, two from part A and two from part B and students will be required to attempt **one question from each part**.
2. **Two questions** are to be set from **unit-II** and students will be required to attempt **only one question**.
3. Stress should be given to practically understand the principles of design learnt in theory (**Unit-I**).

NOTE

Evaluation is to be done through viva voce by external examiner appointed by the university at college and answer sheets should be retained at college level.

REFERENCES:

1. V.S.Pramar, Design Fundamentals in Architecture, Somaiya Publications Private Ltd., New Delhi, 1973.
2. Francis D.K.Ching, Architecture Form, Space and Order, Van Nostrand Reinhold Company, New York, 1979.
3. Structure in Nature- Strategy for Design – Peter Pearce
4. Patterns in Nature- Peter Streens

**B.ARCHITECTURE-IST SEMESTER-2012
BUILDING CONSTRUCTION & MATERIALS-I
BACH 102**

University Exam Marks -70
Sessional Marks - 70
Duration of Exam. - 04 Hrs
No. of contact hrs. - 06 per week

INTENT

The overall intent is to study various construction methods in coordination with the Building Materials and science related to them.

CONTENTS

Subject consist of two units-
UNIT – I Building Materials
UNIT - II Construction

**UNIT – I BUILDING MATERIALS
Elementary Building Materials**

Max. Mks.-25

1. The study of constituents, properties, types, available market forms and uses of Bricks, Stones, Cement, Lime and Sand.
2. The study of constituents, properties and uses of Mortar, Lime Mortar, Cement Mortar, Surkhi and Mud Mortar.
3. Surface Finishes - Plastering and Pointing.
4. Teaching Methodology: Site visit to Brick Kiln /Construction site. Market Survey for above said materials with respect to their availability, trade names, market rates etc. Site report should be evaluated and shall form part of the sessional work.

**UNIT – II CONSTRUCTION
Brick Masonry**

Max .Mks.-45

1. Terminology used in Brick masonry,
2. Tools used in Brick masonry.
3. Types of Bats and closers in Brick masonry.
4. Bonds in Brick work. L-junctions, T-Junctions, cross junction in brick masonry (4-1/2", 9", 13-1/2" thick brick walls)
5. Attached & detached Piers in Brick.
6. Arches-Flat, Segmental and Semicircular Arch in Brick masonry.
7. Lintels, sills, coping and threshold details.
8. Design of simple Brick jalli.
9. Stone masonry of various types

GUIDELINES

- **Three questions** are to be set from **unit –I**, and Four questions are to be set from **unit-II**.
- Students will be required to attempt **two questions** from **unit-I** and **two questions** from **unit-II**.
- Question paper is to be set covering the entire syllabus.

RECOMMENDED BOOKS:

Building construction	W.B. Mckay vol. 1 to 4
Construction of buildings.	R.Barry vol. 1 to 4
Construction technology	Chudley vol. 1 to 4
Building Construction illustrated	Ching Francis D.K.
Elementary building Construction	Michell
Engineering materials	Rangwala

National Building Code

B.ARCHITECTURE-IST SEMESTER-2012
ARCHITECTURAL DRAWING-I
BACH 103

University Exam Marks - 60

Sessional Marks - 60

Duration of Exam - 4hrs.

No. of contact hrs. - 05 per week

INTENT

To familiarize the students with basic knowledge of good drafting and lettering techniques and architectural drawing i.e. orthographic projections of simple geometrical forms.

CONTENTS

UNIT- IMax. Marks-15

- Drafting Technique&, Principles of Drafting,
- Dimensioning and types of Lines
- Lettering (free hand & block lettering)
- Scales & its Use in the Architectural Drawing.

UNIT- II

PART AMax. Marks-25

- Orthographic Projections of the Point, Lines, Planes and Solid in various positions in the First Quadrant.

PART B

- Section of Solids e.g. Cube, Cuboid, Cone, Cylinder, Pyramid, Prism etc.

UNIT- IIIMax. Marks-20

- Development of Surfaces: Simple Geometrical Solids e.g. Cube, Cuboid, Cone, Cylinder, Pyramid, Prism etc.
- Interpenetration of Solids.

GUIDELINES

- **Two questions** are to be set from **unit I** and **unit III** each . Students will be required to attempt **one questions from each unit.**
- **Four questions** are to be set from **unit II**, **two question from part A** and **two from part B**. Students will be required to attempt **one question from each part.**

REFERENCES:

1. Engineering Drawing – N.D. Bhatt
2. Engineering Graphics – K.R. Mohan
3. Engineering Drawing – R.K. Dhawan

B.ARCHITECTURE-IST SEMESTER-2012
ARCHITECTURAL GRAPHICS-I
BACH 104

University Exam Marks - 50

Sessional Marks - 50

Duration of Exam - 04 hrs.

No. of contact hrs. - 04 per week

INTENT

To learn the utility and art of using the potential of Pencil as a powerful tool of Graphic Communication.

To understand the fundamentals, use, role and importance of Colours in Graphics.

CONTENTS

UNIT-I

Max. Marks -30

Pencil as an effective presentation tool.

- Free hand line work with different strokes/grades in pencil.
- Effect of light and shade on simple geometrical solids.
- Textures of different building materials in pencil through shading.
- Freehand sketching of human figures, trees and vehicles on an appropriate scale.
- Outdoor sketching of simple building forms.
- Sketches of scenes and activities from memory involving public spaces, markets, festivals, recreational spaces etc.

UNIT-II Max. Marks-20

Poster Colours and its use

- Colour Wheel showing Primary, Secondary and Tertiary colours.
- Colour Schemes & Charts showing Tints and Shades of various colours.
- Effect of colours in relief compositions.

GUIDELINES

- A total of **four questions** are to be set.
- **Three questions** will be from **Unit- I**, out of which students will be required to attempt **two questions**.
- **One compulsory question** is to be set from **Unit- II**.

REFERENCES:

1. **Graphic Illustrations in Black and White** by Jaccueline, Design Press, New York, 1991
2. **Architectural Rendering**, Crowe Philip- Rofovision S.A. Switzerland, 1991
3. **Rendering with Pen & Ink**, Robert W. Gill, Thames & Hudson London, 2008

B.ARCHITECTURE-IST SEMESTER-2012
STRUCTURE SYSTEM-I
BACH 105

University Exam Marks –00(No University Exam)

Sessional Marks - 50

No. of contact hrs. - 02 per week

INTENT

To inculcate in the student an awareness of basic structural principles used in various building systems.

CONTENTS

UNIT-I

CELLULAR SYSTEM

1. Cell as a natural unit of space.
2. Cell transformation.
3. Polygonal Cellular Systems leading to evolution of Geodesic Domes
4. Applications of Cellular System in Building

UNIT-II

BULK ACTIVE STRUCTURE SYSTEM

Structure acting mainly through material bulk and continuity i.e.. Bulk active structure system / structure systems in bending involving:

1. Slabs (One way & Two way)
2. Beams (Simply supported, Cantilever, Continuous, Vierendale Girders)
3. Grid (Skew & Square Grid)
4. Columns

GUIDELINES

- This course is to be taught as an introduction with special reference to structure in nature viz. Trees, Human body and other examples in which unusual rock formations are created by the forces of nature like wind and water.
- The teaching in this subject must bring out:
 1. The predominant pictorial nature of the Architects language.
 2. The physical - mechanical essence of the subject matter.
 3. The orientation of all Architectural efforts and its relation to form and space.

NOTE

More emphasis while teaching shall be laid on 'learning by doing' by students involving making of 3-D models (to give the student different spatial experience and make them understand the basics/principles involved).

REFERENCES:

1. **Order in Space** By Keith Critchlow
2. **Three Dimensional Design** By Richard K.Thomas

B.ARCHITECTURE-1ST SEMESTER-2012

WORKSHOP-I

BACH 106

University Exam Marks– 00(No Exam)

Sessional Marks - 40

No. of contact hrs. - 02 per week

INTENT

To acquaint the students with the basic skills of Carpentry and Brick Masonry.

CONTENTS

TOPICS

- **Carpentry** – Introduction to the use of different types of Tools used in Carpentry.
- **Joints** –Different types of Joints, Joinery details commonly used in Timber construction and interiors.
- **Model**-- Preparation of wooden base for model making.
- **Form Work** - Use of Clay, Brick and Soap for creating three dimensional forms in space.
- **Brick Masonry**–Small brick masonry construction models for understanding of various bonds, jallies etc.
- **Block Making**- Three dimensional building blocks and forms using different materials.

GUIDELINES

Continuous Evaluation shall be made of students work basedon various models, assignments and market surveys.