SCHEME OF TEACHING AND EXAMINATION OF I SEM B.ARCHITECTURE.

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (50 Mts)				Examination Scheme				
			Lecture	Studio	Pract	Total	Duration (hrs)	Theory Marks	Prog. Marks	Term work Marks	Total
1.	09ARC 1.1	Architectural Design-I	-	08	-	08	-	-	50	200	250
2.	09ARC 1.2	Building Construction & Materials – I	01	05	-	06	-	-	50	100	150
3.	09ARC 1.3	Graphics – I	-	04	-	04	-	-	50	100	150
4.	09ARC 1.4	Early Civilizations – Art, Culture and Architecture	04	-	-	04	03	100	50	-	150
5.	09ENG 1.5	Structures – I	03	-	-	03	03	100	50	-	150
6.	09ART 1.6	Basic Design & Visual Arts	-	06	-	06	-	-	50	-	50
7.	09HUM 1.7	Communication Skills	02	-	-	02	-	-	50	-	50
8.	09ARC 1.8	Workshop – I	-	-	03	03	-	-	50	-	50
			10	23	03	36		200	400	400	1000

ARC= Architectural Subjects ART= Art Subjects ENG = Engineering Subjects HUM = Humanities Subjects.

No. of Subjects/Heads = 08 No. of Theory Examinations = 02

Progressive Marks to be awarded by the subject teacher.

Minimum Marks for passing: Theory Marks 40%, Progressive Marks 50%, Term work Marks 40%.

09ARC 1.1: ARCHITECTURAL DESIGN-I

CONTACT PERIODS: 8 (STUDIO)PER WEEK

PROGRESSIVE MARKS : 50

TERM WORK MARKS : 200

OBJECTIVE:

To develop the ability to translate abstract principles of design into architectural solutions for simple problems.

OUTLINE:

Basic anthropometrics, human functions and their implications for space requirements. Minimum and optimum areas for mono functions. User's data, Movement and circulation diagrams. Spatial interpretations – various activities and their relationship with spaces. Functional furniture layout, circulation, lighting and ventilation for spaces such as living/dining, bedrooms, Architect's office, Doctor's clinic etc., Design of simple building elements such as gate, welcome Arch, Memorial, edifice, Bus shelter and layout of parks, Design of Bungalows and integration of form and function.

Note- The requirements pertaining to the handicapped and elderly people are to be addressed in design and detailing.

The portfolio covering the above topics shall be presented for term work.

REFERENCES:

1. "Time Saver Standards for Architectural Design Data" by John Hanock
2. "Architectural Graphic Standards" by Ramsay and Sleeper

09ARC 1.2: BUILDING CONSTRUCTION & MATERIALS-I

CONTACT PERIODS: 6 (1 ECTURE + 5 STUDIO) PER WEEK

PROGRESSIVE MARKS : 50
TERM WORK MARKS : 100

OBJECTIVE:

To give an introduction to building elements and contemporary local construction methods and materials.

OUTLINE:

Construction – Introduction to various building components and their function, various conventions used for drawing plan, sections and elevations.

Brick Construction – Types of brick masonry walls and bonds, foundations, plasters, buttresses, arches and lintels.

Stone construction – Types of walls, bonds, arches and lintels

Foundation – Functions of foundations, types of foundations, simple load bearing foundations in brick and stone

Concrete Blocks – Hollow and solid, stabilised mud blocks.

Doors – Types of wooden Doors, i.e., Battened, ledged, braced, panelled, flush and glazed doors. Study of joinery details.

Windows – Types of wooden glazed windows, study of joinery details.

Materials –

Introduction to Material Science.

Bricks and Tiles – Types, properties, uses and manufacturing methods.

Stones – Types, properties and uses, quarrying

Sand – Availability, properties

Aggregate – Sources and types

Timber – Quality of timber used in buildings, defects, seasoning and preservation of timber. Types – Natural, hard and softwood.

Introduction to types, properties, uses and application of non-ferrous metals.

Note – Minimum one plate on each topic, site visits to be arranged by studio teacher. Study of material application in the form of portfolio. All the plates on construction and portfolio on material application shall be presented for term work.

REFERENCES:

1. "Building Construction" by W.B. Mackay
2. "Construction Technology" by Chudley
3. "Construction of Buildings" by Barry

09ARC 1.3: GRAPHICS-I

CONTACT PERIODS: 4 (STUDIO) PER WEEK

PROGRESSIVE MARKS : 50
TERM WORK MARKS : 100

OBJECTIVE:

To introduce the students to the fundamental techniques of architectural drawings.

Introduction to the basic principles of drawing, sign conventions. Practice in lettering, lettering used in architectural drawings, including different fonts. Introduction to plane geometry and exercises in lines and angles, construction of triangles, quadrilaterals and regular polygons. Construction of plane curves, ellipse, parabola, hyperbola and ovals. Arches, typical arch forms and methods of drawing them. Scales, construction of plain and diagonal scales and their uses in practice.Orthographic projection (first angle projection).Principles of orthographic projection, projection of points, lines, planes, solids. Three dimensional representation, isometric and axonometric projection of solids.

Plates on each of the above topics shall be presented for term work.

REFERENCES:

1. "Engineering Drawing". by ND Bhat
2. "Geometrical Drawing for Arts Students" by IH Morris
3. "Engineering drawing Vol I and II" by KR Gopalakrishna

09ARC 1.4: EARLY CIVILISATIONS- ART, CULTURE AND ARCHITECTURE

CONTACT PERIODS: 4 (LECTURE) PER WEEK
DURATION OF EXAM : 3 HRS
PROGRESSIVE MARKS : 50
EXAM MARKS : 100

OBJECTIVE:

To provide an introduction to the culture and architecture of early civilizations.

OUTLINE:

Critical appreciation of works and synoptic study of architectural characteristic features from the following phases and periods:

Pre-Historic world – Primitive man - shelters, settlements, religious and burial systems

Eg: Oval hut, Nice, Dolmen tomb, gallery grave, passage grave

Houses at CatalHuyuk, Henge Monuments, Stone Henge

River valley cultures – Indus, Tigris and Euphrates, Nile, Pre-classical Aryan, Vedic and Epic Age, Mauryan and early Buddhist Cultures, Design norms, standards, prescription and style.

Eg: Layout of Mohenjodaro, House plan, Community well, Great Bath, Granary, Ziggurats at Warka, Ur and TchogaZanbil, Palace of Sargon, Mastaba Tombs, Pyramid of Cheops, Temple of Khons, Karnak, Vedic Village.

Classical (Buddhist) – Mahayana phase, stupa and rock cut cave architecture

Pre-Classical- Mycenea, Persia, Etruscan.

Eg: Great Stupa at Sanchi, Chaitya at Karli, Viharas at Ajanta, Toranas at Sanchi, The Palace, Tiryns, The Temple of Juno Sospita, Lanuvium,

The Palace of Persepolis.

REFERENCES:

1. “History of Architecture in India” by Tadgell Christopher

2. “Indian Architecture, Buddhist and Hindu period” by Brown Percy

3. “Architecture of India, Buddhist and Hindu” by Grover, Satish

09ENG 1.5: STRUCTURES-I

CONTACT PERIODS: 3 (LECTURE PER WEEK

DURATION OF EXAM : 3 HRS

PROGRESSIVE MARKS : 50

EXAM MARKS : 100

OBJECTIVE:

To give an introduction to the basic principles governing structural systems.

1. Principles of Statics - Scalars and Vectors. Characteristics and classification of forces. Composition and resolution of forces. Principle of transmissibility of forces. Resultant and equilibriant of coplanar, concurrent and non-concurrent force systems. Equations of static equilibrium. Free-body Diagrams. Equilibrium of coplanar, concurrent and non-concurrent force systems. Support Reactions – Types of loading and support conditions and their significance. Concept of statically determinate and indeterminate structures. Determination of support reactions for statically determinate beams and trusses.

2. Friction – Types of friction, laws of dry friction, problems on block, wedge, ladder

3. Centroid and moment of Inertia – Determination of Centroid of simple lamina (symmetrical and asymmetrical). Moment of Inertia and Radius of Gyration of simple cross-sections of beams and columns including built-up sections. Concept of Polar Moment of Inertia.

4. Analysis of Trusses – Definition of perfect, deficient and redundant trusses. Analysis of determinate trusses by method of joints and method of sections(only theory and no problems).

REFERENCES:

1. Engineering Mechanics – RK Bansal and Sanjay Bansal, Laxmi Publications, New Delhi, Third edition.

2. Engineering Mechanics – Ferdinand L Singer, Harper Collins Publications, Third Edition

09ART 1.6: BASIC DESIGN & VISUAL ARTS

CONTACT PERIODS:6 (STUDIO) PER WEEK

PROGRESSIVE MARKS : 50

OBJECTIVE:

To introduce the develop an understanding of principles of design in abstract and to introduce the student to visual arts.

OUTLINE:

Understanding the design elements like Line, Shape, Texture, Colour. Design principles like Contrast, Harmony, Rhythm, Proportion and Unity. Application of design principles in two dimensional and three dimensional compositions. Freehand drawing – Use of various drawing and sketching tools like pencils, ink pens, charcoal pencils etc., Exercises in free hand drawing of household furniture, street furniture, human beings, cars, trees etc.,

Painting – Use of Painting tools and materials like easels, brushes, paper, water colour, poster colour etc., Colour theory, colour wheel, Primary, secondary and tertiary colours, colour schemes, exercises in understanding of colour value and intensity.

Sculpture – Sculpture in different media, clay, plaster of Paris, Wood, Wire and any other media

REFERENCES:

1. 'Principles of three Dimensional Design' by Wucius Wong
2. 'Principles of two Dimensional Design' by Wucius Wong
3. 'Principles of color composition' by Wucius Wong
4. "Rendering with Pen and Ink" by Robert Gill

09H U M 1.7: COMMUNICATION SKILLS

CONTACT PERIODS: 2 (LECTURE) PER WEEK
PROGRESSIVE MARKS : 50

OBJECTIVE:

To develop skills in effective communication – both written and verbal.

OUTLINE:

Understanding the differences among seminars, conferences, convention, congress, debates, extempore speeches, panel discussions etc., Verbal presentations on architectural topics.

- Simple grammar – using appropriate words, filling of blanks, completing of sentences, active and passive voice, correcting mistakes in texts. Use of proverbs, metaphors.

- Reading and listening comprehension, to develop the ability to read and listen with understanding and draw reasoned conclusions.

- Interpretation of materials such as questionnaires, application forms, analysis of materials such as texts, reports, technical literature.

- Notes taking from spoken and written English.

- Comprehension of lectures and speeches to locate key points.

Writing – To develop the ability to write concisely and correctly and present ideas in a logical manner. Professional letters to fellow architects, clients, public authorities, contractors, enquiries to industries, dealers. Essay writing on current political, technical and social problems.

REFERENCES:

1. Working in English: Teachers Book, Jones Leo.

1. Communicative English for Professional Courses, Mudambadithaya G.S.

2. English Conversation Practice, Taylor, Grant.

09ARC 1:8- WORKSHOP-1

CONTACT PERIODS: 3 (PRACTICAL) PER WEEK

PROGRESSIVE MARKS : 50

OBJECTIVE:

To train the students in basic skills of carpentry.

OUTLINE:

Carpentry – Introduction to the use of different types of tools used in carpentry.

Joints – Different types of joints, joinery details (which are commonly used in timber construction and interiors). Application of veneers/laminates on different types of timber surfaces i.e., Teak and commercial woods viz ply, block boards, particle boards. Engraving and carving. Polishing and painting. Clay Work, brick, cob, wattle and daub, rammed earth Masonry construction – walls, arches and corbel

Marking of geometrical forms on the ground.