TEACHING SCHEME & EXAMINATION 4th year B. Arch (BCT)

REVISED SYLLABUS 2011

FOURTH YEAR
SEVENTH SEMESTER B. ARCH (BCT)

Code	Subject	HOURS / WEEKS					Exam	T.W	Total Marks
		L	S	WS LAB	Viva	Total			
AR-BCT-701	Design Studio – V (Prefab/Indust.)	-	14	-	-	12	-	600	600
AR-BCT-702	Adv.Building Const.-I	4	-	-	-	4	50	50	100
AR-BCT-703	Project Management	2	2	-	-	4	100	100	200
AR-BCT-704	Adv. Structural Systems	4	-	-	-	4	-	100	100
AR-BCT-705	Special Subjects – I	-	-	3	-	3	-	100	100 *
AR-BCT-706	Special Subjects - II	-	-	3	-	3	-	100	100 *
	TOTAL					30			1200

AR-BCT-701

DESIGN STUDIO-V

CONTENTS:

- Design base on **modular planning with prefabricated**
- **Materials/ industrial projects/transportation related designs.**
- Structural system other than **rcc frame structure and load bearing structure.**
- Exploring various alternative techniques of construction with composite structures.
- Exploring various advancements, introducing systems and modern materials for the appropriate use.

FOCUS:

- Exploring with Case studies and analysis of various alternative construction techniques and its construction sequence for understanding of erection process other than RCC frame structure and load bearing structure for design process.
- Various stages based on the process of modular planning principals.
- Understanding with structural coordination during design development

AR-BCT-702

ADV.BUILDING CONSTRUCTION-I

CONTENTS:

Concrete technology.

- (Procedure, Theory, New advancement)
- High Performance concrete.
- Fiber Reinforced concrete.
- Geopolymer concrete.
- Self-compacting concrete.

Quality control and safety factors for construction.

Industrial flooring (theory and details)

- Different types of flooring i.e. Trimix, Rubber, etc.
- Proportion- Application method-Tools-Requirements.

Advanced services and design criteria

- Swimming pool and
- Multistoried car parking lifts.

Advanced formwork (for different type of special Structures)

- Modular formwork
- Mobile formwork
- Slip formwork
- Concept of formwork design, Procedure, Construction Methods, Detailing.

Advanced machinery and equipment for construction.

- List-Name-Functioning-Work out put-Specifications.

Acoustics.

- Basic principals and Theory.

FOCUS: Explore various construction Techniques, new materials for large-scale projects, Industrial projects, Study of new advance machinery, formwork for the construction industries.

AR-BCT-703

PROJECT MANAGEMENT

CONTENTS:

- Definition of PM, Nature of construction projects, Understanding of various terms Rent, lease, Hire purchase, Cash flow, Expenditures etc.
- Various objectives for PM, Various activities i.e. administrative, Technical, Financial, Legal with main titles for PM.Role of PM in the construction industries.
- Techniques for scheduling: Bar chart, Net working diagram, and project evaluation and review techniques, critical path method.
- Practical implementation and application of CPM to typical construction project and Understanding of PERT method.
- Different types of Records, Maintenance and Reporting methods and formats.
- Orginogram for various types of offices for large project Management Company. (Site office, Branch office, Head office)
- Introduction of various types of Insurance for company.
- Construction safety and various injuries on site.

FOCUS: Techniques for planning and implementation of construction projects, Field visits for the actual methods of planning and record on site.

AR-BCT-704

ADV.STRUCTURAL SYSTEMS

CONTENTS:

- Pre cast concrete structure and construction.
- Pre stress concrete structure and construction.
- Structural systems for high rise structure.
- Various structural systems for Industrial structure.
- Considerations and design criteria for composite structure.
- Tensile and space frame structure for its behaviors study,application,detailing.
- Building standards for rcc and steel structure.
- Study of is code-456, 800,theory and considerations.

FOCUS:

- Explore various structural systems for different types of building design with materials, forms, and techniques for designing spaces with its construction sequence, procedure and its execution.
- Exploring in design process for specific consideration and detailing

AR-BCT-705

SPECIAL SUBJECTS – I

CONTENTS: To help student to explore their aptitude and develop skill in any related field no. of subjects shall be offered depending on faculties interest and availability.

Students shall choose any subject from list B

AR-BCT-706

SPECIAL SUBJECTS – II

CONTENTS: To help student to explore their aptitude and develop skill in any related field no. of subjects shall be offered depending on faculties interest and availability.

Students shall choose any subject from list C

FOURTH YEAR
EIGHT SEMESTER B. ARCH (BCT)

Code	Subject	HOURS / WEEKS					Exam	T.W	Total Marks
		L	S	WS LAB	Viva	Total			
AR-BCT-801	Design Studio – VI (Green)	-	14	-	-	14	-	500	500
AR-802	Arch. Prog. & Research Method (Thesis)	4	-	-	-	4	-	200	200
AR-803	Professional Practice	2	-	-	-	2	50	50	100
AR-BCT-804	Building Maintenance & Rehabilitation	2	-	-	-	2	50	50	100
AR-BCT-805	Construction, Supervision, Appraisal & Execution	-	-	4	-	4	-	100	100
AR-BCT-806	Special Subjects – I	-	-	2	-	2	-	100	100 *
AR-BCT-807	Special Subjects - II	-	-	2	-	2	-	100	100 *
	TOTAL					30			1200

AR –BCT- 801 ***DESIGN STUDIO – VI (GREEN)***

CONTENTS:

- Design of a building or buildings with the emphasis on sustainability, energy efficiency, green building
- Energy efficient design with adoption of new materials and technologies
- Role of vernacular design ideas and traditional materials and techniques
- Use of recycled materials and services.
- Emphasis should be on developing technical details for energy efficient design or systems.

AR – 802

Arch. Prog. & Research Method (Thesis)

CONTENTS:

- Quantifying and qualifying aspects of the programme and methods to determine and represent them. Preparing of area requirements and understanding the urban, historical, ecological and regional contexts.
- Preparation of site layouts for large campus keeping in mi8nd infrastructure, road layouts, analysis of contours.
- Critical analysis of data collected.
- Presentation of the analysis.
- Refining of the report based on the feedback from the guide.

FOCUS:

- To understand physical, psychological, cultural dimensions of an architectural project and how to interpret them in an architectural design.
- Research method is intended to enhance the student's capacity to understand, analyse and resolve complex issues related to Architecture and environment. The student is supposed to learn how to express verbally and visually, analysis and synthesis of the data.

Note: students may choose a subject on which they will do the thesis in sem IX, so they can do the programming and research on the same subject.

AR-803

PROFESSIONAL PRACTICE

CONTENTS:

- Principles of contracts and Agreements.
- Types of contracts with brief theory.
- Tendering procedure up to publication in newspaper.
- Brief theory on writing various specifications, condition of contract for **civil construction and interior design of various buildings.**
- Role of an architect, responsibilities and liabilities with respect to client and society. Duties, powers and functions.
- Architects Act 1972-aims, objectives, and provision for registration.
- Profession: work and scale of professional charges, Mode of working and payments, phasing of the projects etc.
  (Examples of **civil work and interior work** for considerations of professional fees.)
- Understanding of arbitration, easement, valuation of land and building.

FOCUS: Provision of ready references and Performa, preparation of dummy documents for small-scale design exercises.

AR-BCT-804

BUILDING MAINTENANCE & REHABILITATION

CONTENTS:

- Requirements and understanding of
- Rehabilitation
- Repair
- Restoration
- Strengthening
- Various causes of building failure.
- RCC frame structure and load bearing structure.
- Different types of non-destructive test and its experiments in
- Laboratory.(brief theory).
- Building cracks and its repair methods.
- Building strengthening methods/retrofitting methods.
- Tools-equipments required for different methods of repairs.
- RCC-brick-steel-stone.
- Construction chemicals.
- Name-Theory-Application methods.

Introduction of forensic engineering.

METHODS Exam, Case study, Report writing, Documentation of Heritage Buildings.

PART-I Report writing and data collection.
PART-II Report on Retrofitting methods and details.

FOCUS: Exploring and understanding materials, techniques, tools and procedure for repair and strengthening techniques for various buildings.

AR-BCT-805

CONSTRUCTION SUPERVISION, APPRAISAL & EXECUTION

CONTENTS:

- Role players and their responsibilities on the construction site.
- Study of site administration reporting methods for various offices.
- Supervision of health and safety on a construction site.
- Loads to supervise and coordinate to construction team.
- Monitoring methods and control cost and productivity of construction work.
- Industrial relations in construction.
- Documents study for Appraisal work, legal approval procedure and developments rules knowledge for Architect.

FOCUS:

- Explore to identify activities, performance level and productivity on site.
- The work with policies and will deal with applicable documentation for site and office coordination.

METHODS Theory classes and actual site case study by individual students with group discussions and exams.

AR-BCT-805

SPECIAL SUBJECTS-I

CONTENTS: To help student to explore their aptitude and develop skill in any related field no. of subjects shall be offered depending on faculties interest and availability.

FOCUS: Students shall choose any subject from list A or B

AR-BCT-806

SPECIAL SUBJECTS-II

CONTENTS: To help student to explore their aptitude and develop skill in any related field no. of subjects shall be offered depending on faculties interest and availability.

FOCUS: Students shall choose any subject from list C

TEACHING SCHEME & EXAMINATION COMMON SYLLABUS FOR 5TH YEAR B-ARCH, B-ARCH (ID), B-ARCH (BCT)

REVISED SYLLABUS 2011

FIFTH YEAR
NINETH SEMESTER **B. ARCH, B. ARCH (ID), B. ARCH (BCT)**

Code	Subject	HOURS / WEEKS					Exam	T.W	Total Marks
		L	S	WS LAB	Viva	Total			
AR-901	Design Thesis	-	30	-	-	30	-	1200	1200
	TOTAL					30			1200

AR- 901

DESIGN THESIS

CONTENTS: The student is supposed to work under the guidance of internal / external Guide in the areas of public concern & related issues such as Ordering themes / Ideas / Concepts.
Movement network & circulation.
Landscaping.
Perception of spaces
Psychology & Human behavior.
ID: Emphasis shall be placed on Interior aspect of building design (part/whole) with appropriate details/drawings explaining the interior spaces/design.
BCT: Emphasis shall be placed on Technical aspects of building design with accompany data/details and drawings.

FOCUS: The undergraduate design thesis is intended to evaluate the student's capacity to understand, analyze and resolve complex issues related to architecture as well as interior environment.

EVALUATION: Presentation of final design with drawings, models and case studies with a report (both in printed and in digital format) to the external Jury and Guide

Note: The Student may be allowed to do the Thesis by way of a Research if recommended By internal/external Guide.

FIFTH YEAR
TENTH SEMESTER **B. ARCH, B. ARCH (ID), B. ARCH (BCT)**

Code	Subject	HOURS / WEEKS					Exam	T.W	Total Marks
		L	S	WS LAB	Viva	Total			
AR-1001	Office Training Report	-	-	-	-	100 Days	-	600	600
	TOTAL					100 Days			600

AR-1001 ***OFFICE TRAINING REPORT***

CONTENTS: Min 16 weeks of training with a registered Architectural firm. Understating of Professional Practice methods in Architectural firm. Develop Client contacts to production of documents, tendering drawing, site supervision, coordinating various agencies.

FOCUS: Expose the students to Architectural profession to understand the process including conception to execution of project.