BACHELOR'S DEGREE COURSE IN ARCHITECTURE

(Revised Syllabus based on 1991 syllabus)

(To be made Effective from the Academic Session 2011-2012)

SCHOOL OF PLANNING AND ARCHITECTURE

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PREAMBLE

In the Academic Council meeting held on December 9, 2010 under item 8, Prof. Manoj Mathur stated that syllabus still needs lot of changes to be incorporated and revised syllabus will be presented in next meeting of AC.

Referring the Council of Architecture norms which have been supplemented in 2008, major changes are expected in near future, which may lead to eight semesters of teaching and one year of Practical Training after eight semesters.

In view of such scenario it was decided that the syllabus of B.Arch course be revised only after said issues have been settled and be continued with existing syllabus for year 2011-12 with following minor changes:

- 1. The rules of Examination as approved by EC on 16th December 2009 to replace the rules presently written in existing syllabus to be applicable from session 2011-2012.
- 2. The exams to be held at the end of each semester instead of end of year. Hence the subject names are marked with semester number instead of year number.
- 3. No changes in subjects except the flexibility in studio themes of semester 7 (Housing) and 9 (Urban Design) introduced by giving subject options from themes like: Energy Conscious Architecture, Interior Design, Product Design, Building Management, Landscape etc. in addition to Housing and Urban Design to enable student to pick their areas of interest.
- 4. The Council of Architecture also stipulates that maximum students in each class to be 40. In view of that three sections to be made for classes having more than 100 students.

OBJECTIVES

The Bachelor of Architecture Degree programme prepares students for professional practice in the field of Architecture. Being an undergraduate programme, it has a broad scope, providing exposure to a variety of interests in this field and assisting students to discover their own directions for further development.

There is increasing recognition today of Architecture as an intellectual discipline, both as art and as a profession. Architects make a vital contribution in the shaping of our environment and society, in the design and technology for a diverse range of situations, both in the rural and urban contexts. In India, we have further complexities of different social, cultural, geographical, economic and technical nuances which are unique and typical of every region in our country.

It is the appreciation of this over-changing context that the architect must bring to bear of his work. This demands appropriate skills, understanding and knowledge and a deep commitment to professed ideals. Addressing Architectural Design as a comprehensive creative process, this programme is based on the following broad intentions:

- a) To stimulate sensitivity and unveil creative talents.
- b) To reinforce intellectual capabilities and develop proficiency in professional skills to enable graduates to competently pursue alternative careers, within the broad spectrum of architecture.
- c) To provide opportunities to students to try out the role they will eventually play as responsible members of society, under supervision and interactive guidance.

The program aims at attaining a high level of excellence in Architectural Design. To this end, the design course is seen as the core of the programme with supportive inputs from courses in other streams viz., the Humanities, the Technological and the Professional, built upon a strong foundation of enabling skills in communications and data processing. The emphasis is on the development of faculties of discernment and decision-making with the aid of both objective information and subjective attitudes, based on reason.

Given the complexities of present-day design projects, the architect's role is that of a team Leader and coordinator of the input of specialists in various specific disciplines. He needs to possess a sound knowledge of all aspects of modern building technology to be able to draw up an integrated framework for activities of the other members of the team, to direct them and to assume overall responsibility for the collective effort. This is manifested in the courses in the Technological and professional streams.

RULES OF EXAMINATION FOR THE BACHELOR OF ARCHITECTURE

The rules of examinations shall be as approved by the EC on 16TH December, 2009.

EXTERNAL JURY SUBJECTS DESIGN/THESIS STUDIOS/BUILDING CONSTRUCTION/LABORATORIES

Subjects

Bachelor of Architecture

Architectural Design I, II, III, IV, V, VI, VII, VIII, IX, X Exam.
Graphics I and II Exam.
Building Construction IV

LIST OF COURSES

DESIGN STREAM	Architectural Design	AD-I, AD-2	
		AD-3,AD-4	
		AD-5, AD-6	ΙE
		AD-7, AD-8(Training)	
		AD-9, AD-10	
	Theory of Design	TD-2	
		TD-4	10
		TD-5, TD-6	
TECHNOLOGY	Building Construction	BC-1,BC-2	
STREAM		BC-3,BC-4	
		BC-5,BC-6	ΙE
		BC-7	
	Advanced Building Technology	BC-9	Ю
	Theory of Structures	TS-1,TS-2	
		TS-3,TS-4	
		TS-5,TS-6	ΙE
		TS-7	
	Building Science & Services		
	- Climatology	BS-2	
	- Water & Waste Mgmt.	BS-3	
	- Electrical Instals	BS-4	ΙE
	- Lighting & Accoustic	BS-5	
	- Ventilation, Commun. &	BS-6	
	Security Systems		
	- Integrated Energy Mgmt.	BS-7	
PROFESSIONAL	Building Management		
STREAM	- Surveying & Levelling	BM-1	10
	- Specs. & Contracts	BM-5	
	- Quantities & Estmn.	BM-6	IE
	- Building Economics	BM-7	
	- Project Management	BM-9	10
	Professional Practice	BM-10	ΙE

HUMANITIES	History of Architecture	HA-3, HA-4 HA-5, HA-6	IE
	Theory of Settlements	TP-3	IO
	,	TP-5,TP-6	IE
		TP-7	IE
	Art Appreciation	AA-3, AA-4	Ю
ENABLING SKILLS	Mathematics	XM-1	10
	Graphics & Communication	XG-1, XG-2	IE
		XG-3, XG-4	IE
	Computer Applications	XC-1, XC-2	IE
OPTIONS	Electives	XE-7	10
		XE-9	10
	Project Report/Seminar	PRX	10
		SRX	10
	Architectural Thesis	ADT	IE

COURSES OF STUDY

ARCHITECTURAL DESIGN

REVISED

2. THEORY OF DESIGN: Stage I

The courses in Design Theory aim to evolve a conceptual frame work for intelligent appreciation of architecture and to develop a vocabulary for discussing design ideas. The structure of the courses consists of set of lectures and prescribed reading followed by group discussions and seminars.

FIRST YEAR, SECOND SEMESTER SYLLABUS

TD-2 <u>The genesis of indigenous architecture</u>, its geographical and cultural sign posts. Evolution of ideals and design principles in modern architecture. Influences governing the formation of attitudes as a prelude to the act of design. The translation of design ideas into architectural expression.

SECOND YEAR, FOURTH SEMESTER SYLLABUS

TD-4 <u>Architecture as a socially useful discipline.</u> The concept of measuring, function, style, type, social purpose and ideology, The relationship of architecture to the sciences, arts, economics and politics. Study of selected writing, and buildings in monumental and vernacular scales. Man-made design at all levels including objects of daily use.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

TD-5 <u>Design Methodology</u>: Design as a multi-variety problem solving process. Theories of Program and Function, thinking techniques, information processing and research methods, generators of creativity, design matrices and system integration.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

TD-6 <u>Design Evaluation and Criticism:</u> Value judgments in design, Appreciation of designer's skills, theories of perception and variability of perception. Theoretical issues in contemporary architectural though, Seminars on the works of selected Indian and International architects and related topics.

3. BUILDING CONSTRUCTION

This course is designed to expose students to the process of building construction, the components of buildings and the materials, skills and equipment used in shaping them. The emphasis is on familiarisation by direct handling and observation, Students shall be encouraged to acquire a taste for good workmanship and quality products.

The course is visualized as having three essential components viz. a lecture course in materials and methods of construction, a building workshop which may be conducted within the School and at specific venues outside and a construction studio wherein principles and practices shall be applied to the production of meaningful working details and drawings. The construction studio will be integrated with the Architectural design studio wherever possible.

Stage I

FIRST YEAR, FIRST SEMESTER SYLLABUS

BC-1 Historical evolution of building material and Construction method. Introduction to primary building elements, walls, peirs, foundations, roofs, bricks, stone and block masonry their properties and manufacture. Studio exercises in brick bonding foundation details, wall details upto plinth level. Workshop in brick laying, setting-out, mudblocks, etc.

FIRST YEAR, SECOND SEMESTER SYLLABUS

BC-2 Introduction to secondary elements door, windows, railing and sunshades etc. timber sawing and seasoning, timber products, roof tiles, and sheets, studio exercise on door and window details, timber trusses and miscellaneous joinery, workshop, in carpentry and joinery, fixing of frames in masonry, simple wall and floor finishes.

SECOND YEAR, THIRD SEMESTER SYLLABUS

BC-3 Introduction to specialized elements such as staircases, built-in-furniture, show windows, sliding and folding doors, paneling and external paving, gets, grills etc. Studio exercises related to metal windows, partitions, mezzanines and cabinetry. Workshop in steal welding and forging, shuttering, bar bending and concreting, painting and laminating.

SECOND YEAR, FOURTH SEMESTER SYLLABUS

BC-4 Investigation of materials, techniques and details related to vernacular architecture as studied in AB-3. Exploration of alternatives. Studio programme to be integrated with AB-7. Workshops in appropriate and innovative materials and construction at various research institutions and building centres.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

BC-5 Introduction to the problems or large scale industrial, commercial and institutional buildings such as basements, large span roof, roofflights, false ceilings and floors, cavity walls curtain walls and renovation and strengthensing of existing structures. Studio exercise related to industrial structure comprising of some of the above components, workshop on shoring, underpinning, dewatering, waterproofing, erection and cladding.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

BC-6 Investigation of hi-tech material and technologies related to interior finishing and detailing, exterior finishes etc. Studio Programme to be integrated with AD-6. Workshop on sanitary and plumbing installations, finishing works.

Stage II

FOURTH YEAR, SEVENTH SEMESTER SYLLABUS

BC-7 Studio programme integrated with AD-7. Production of a set of detailedworking drawings.

FIFTH YEAR, NINTH SEMESTER SYLLABUS

BC-9 Advanced Building Technology. Introduction of pre-stressing, profabrication & systems building. Jointing, tolerances and modular co-ordination. Mass production, transportation, storage and handling of materials. Characteristics, performance and application of mechanized construction equipment. Advanced vernacular construction techniques.

4. THEORY OF STRUCTURES

The objectives of the course is to develop is the students a feel for structural principles and they relates to building design. Essentially, the students should be able to conceive structure as a system that forms space and that architecture and structures cannot be conceived independently. In current architectural practices, structural engineering is a specialist discipline. The architect therefore should be able to appreciate his consultant's concerns and make an informed choice regarding the most appropriate structural system for his building. He should have a reasonable understanding of its operational and economic implications.

The course is visualized as having three essential components viz., a lecture series introducing concepts, a studio in which those will be applied in demonstrative exercises to determine elements and preparing drawings for the same, and laboratory studies for testing of structural material and systems models.

Stage I

FIRST YEAR, FIRST SEMESTER SYLLABUS

TS-1 Concept of direct force mechanism in structures, tension and compression.

Equilibrium of forces, concept of structure and tie. composition and resolution of forces.

Concept of loads as forces, response as deformation, stress and strain, Hook's Law. Concept of Euler's load, phenomena of buckling, short and long columns, masonry walls and piers, and design using slenderness ratio and monogram method.

Laboratory verification of Booke's Law destructive testing of brick and brick-mortar combinations. Study of models using ties, struts and membranes only.

FIRST YEAR, SECOND SEMESTER

TS-2 Concept of direct force and bending mechanism. Concept of force applied as displaced from the point of support. Bending moment and shear force. Behaviour of homogeneous material in response of direct and bending forces. Theory of simple bending and principles of super-position, distribution of shear and bending stress. Beam as a structural element. Design of steel and timber beams. Concept of compound stresses as material response to a set of applied forces. Analysis and design of masonry structures subject to direct and bending forces.

SECOND YEAR, THIRD SEMESTER

TS-3 Concept of arch, vault and dome as direct stress members alimenting bending. Development of advanced arches that take direct forces and bending also. Design and drawings of simple trusses in steel and timber, riveted, welded and bolted joints. Laboratory studies in truss design and model formation, and testing to failure.

SECOND YEAR, FOURTH SEMESTER

TS-4 Concept of behavior of heterogeneous materials in direct force and bending. Elastic Theory, Ultimate Load Theory. Design of RCC beams, columns, slabs. Introduction to pre-stressed concrete structures.

Laboratory testing of concrete samples and RCC beams.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

TS-5 Concept of Structural in determinacy and its application in structural system development. Soil mechanics, soil bearing capacity. Design of continuous structures in steel and RCC. Foundation Engineering. Design of foundations in RCC, piles and rafts, retaining walls.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

TS-6 Principal considerations for structural analysis. Methods of analysis. Complex and composite structures. Design of continuous beams in steel and RCC. Design of complex girders and box girders. Behaviour of structures under wind and seismic loads.

Stage II

FOURTH YEAR, SEVENTH SEMESTER SYLLABUS

TS-7 Structure System Studies, Synthesis of force systems to create structure systems Vector active, surface-active and built-active systems. Shells and folded plates, Virendeal Trusses, Space structures, High-rise and large-span structures. Pre-stressing and post-tensioning.

5. **BUILDING SCIENCE & SERVICES**

The objective of the course is to provide a wide exposure to environmental support systems as they apply to human habitat. The subjects covered shall be under two basic aspects of (i) climate and environmental control and (ii) water and waste management. These will be studied as areas of energy consumption, with special emphasis on alternative and appropriate methods of energy use and its conservation through innovative operational management.

The course will be supported by a theoretical background of environment, ecology and human settlements as studied in Theory of Settlements courses TP-3 and TP-6. Integration with the workshops in Building Construction will be sought at various stages.

Stage I

FIRST YEAR, SECOND SEMESTER SYLLABUS

BS-2 Climatology and Thermal Control. Global climatic factors, thermal comfort, heat gain and loss, u-values for well and roofs, solar geometry, shading devices, solar heating and cooling, passive systems.

SECOND YEAR, THIRD SEMESTER SYLLABUS

BS-3 Water and Waste Management. Water resources, collection, processing and distribution, internal hot and cold water supply. Domestic plumbing and sanitary fixtures. Waste and sewage disposal systems, storm water drainage.

Sewage and effluent treatment, septic tanks, sewage systems for a small project. Solid waste treatment.

SECOND YEAR, FOURTH SEMESTER SYLLABUS

BS-4 Energy Systems and Installations. Thermal, mechanical and electrical energy and its generation, properties and applications. Electrical distribution systems and safety devices, internal wiring, loads, demand, tariffs and rules. Electrical equipment and appliances, Solar-powered appliances, photo-voltaics, wind and wave energy. Fossil fuels, natural gas and biogas.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

BS-5 Lighting and Accoustics. Day lighting, Indian design sky and calculations based thereon, artificial lighting, illuminance and glare, lighting systems, design and choice of luminaries, architectural lighting and special effects. Basic accoustical concepts, sound insulation and transmission, absorption, reverberation time, noise control and attenuation.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

BS-6 Ventilation, Communications and Security Systems. Principles of air-cooling and air-conditioning, their implications on architectural form and details, systems and equipment. Lifts, escalators and conveyors, inter-communication, monitoring devices, fire protection and alarm system.

Stage II

FOURTH YEAR, SEVENTH SEMESTER SYLLABUS

BS-7 Integrated Energy Management. The energy crisis, renewable & non-renewable energy sources. Waste recycling, energy recovery techniques, integrated systems for non-potable water supply and sewage treatment, scavenging. Social forestry, fodder and the nitrogen chain, strategies and technological for a developmental needs, incremental extension of urban services and their management.

6. BUILDING MANAGEMENT

This course deals with the entire gamut of activities concerned with the implementation process subsequent to the preparation of the design and construction drawings. The sequence shall begin with the framing of work specifications and progressively lead to concepts of scheduling construction management and project planning.

Stage I

FIRST YEAR, FIRST SEMESTER SYLLABUS

BM-1 Surveying and Leveling Tools and equipment for land surveying. Interpretation and preparation of contour maps. Exercises in layout of buildings and checking the same at site.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

BM-5 Specifications & Contracts. Methods of specification writing, typical space for building works, implications of variations and incomplete specifications, impact on building costs. Types of contracts, tenders, relative merits, general conditions and commercial terms. Studio exercises related to specifications for a small building project. Standard CPWD specifications, Scheduled and Non-scheduled items.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

BM-6 Quantities & Estimation. Types of areas, types of estimates, methods of taking out quantities, modes of measurement, preliminary and detailed estimates, plinth area rates and cost indices, rates of labour and material, rate analysis, CPWD schedule of rates.

Stage II

FOURTH YEAR, SEVENTH SEMESTER SYLLABUS

BM-7 Building Economics, Fundamental economic concepts and analysis, cost control, cash-flow analysis, cost projections, cost-benefit, financing, feasibility, Estate investments and returns, rentals, easement, valuation, law relating to properties and buildings.

FIFTH YEAR, NINTH SEMESTER SYLLABUS

BM-9 Introduction to Project Management. Project Planning, feasibility studies, project report, project financing, Project organisation, process and structure and personnel selection, responsibilities of the project manager. Project implementation, Site investigations, layout, site organisation, networking techniques, PERT/CPM, LOD, time-cost analysis, value engineering, Project monitoring, cost control, manpower management, safety and labour laws.

FIFTH YEAR, TENTH SEMESTER SYLLABUS

BM-10 Professional Practice. The Architects' Registration Act. The architect and his office. Relationship with clients, consultants and contractors. Legal responsibilities. Code of Professional Practice Fees, Agreements and Contracts, negotiations, arbitration and Architectural competitions. Building Codes and regulations. Building Permit. Presentations, business management, sales promotion, human relations and personnel management. Efficiency studies and performance appraisal, billing, accounting, correspondence, information storage and retrieval.

8. HISTORY OF ARCHITECTURE

The course is designed to arouse in the student a sense of curiosity and to sharpen his powers of observation. The importance of the timelessness of architecture shall be emphasized. Students shall undertake a chronological study of world architecture with emphasis on the Indian sub-continent and a comparison of the different stages of developments in India and other parts of the world. The architectural study is to be linked with the social developments of civilizations, geographical and geological factors, materials and structures etc. The course shall include sketching and understanding of historical buildings, historical analyses and measured drawings.

Stage I

SECOND YEAR, THIRD SEMESTER SYLLABUS

HA-3 Indus Valley civilization and the early Aryan architecture of the Ganges valley, Vedic planning principles. Study of the architecture of the Chinese, West Asian, Egyptian, Greek, Roman and Latin American civilization. Buddhist architecture in India and abroad.

SECOND YEAR, FOUR SEMESTER SYLLABUS

HA-4 Early Hindu temple forms, regional nuances and growth of temple cathedrals. Hindu architecture outside India. Development of Christian architecture including Early Christian, Byzantine, Romanesque and Gothic. The development of Islamic architecture in the west.

SECOND YEAR, FIFTH SEMESTER SYLLABUS

HA-5 The advent of Islam into India, Architecture of early Islamic Delhi and the regional variations. Influences of Islamic ideas on secular and religious architecture in India. The Mughal period in India, Renaissance in Italy, the spread of renaissance and Baroque in Europe.

SECOND YEAR, SIXTH SEMESTER SYLLABUS

HA-6 Architecture of the Industrial Revolution in Europe and the Revival styles. Colonial architecture, Lutyn's New Delhi. Introduction to Modern architecture, Post-Introduction to Modern architecture, Post-Independence Indian architecture upto contemporary times.

9. THEORY OF SETTLEMENT PLANNING

The courses aims at familiarizing the student with the social, economic and organizational perspectives at the national, regional and local levels as a context in which his architectural product is likely to be placed. This will also provide the necessary background for making informed choices for further studies in related specialized disciplines. Special reference to the problems of urbanization in India, and global environmental concerns.

Stage I

SECOND YEAR, THIRD SEMESTER SYLLABUS

TP-3 Sociology. Man, Environment & Sociology. Rural society, village community, traditional patterns and trends of change. The concept of social stratification, urbanism, urbanization and modernization. Concept of social structure, cultural and social institutions. Distinctive nature of a sociological approach. Relationship between social structure and spatial structure.

THIRD YEAR, FIFTH SEMESTER SYLLABUS

TP-5 Introduction to Settlements. Historical survey of the city as an architectural form, and as an expression of the vitality of a civilisation. Comparative study of the origin and growth of settlements. River Valley Civilisations. Principles of settlement planning in ancient Greece, Rome and India. Medieval towns in Europe and India. Renaissance city planning. Colonial urbanization. Industrial revolution and planning theories of the nineteenth century.

THIRD YEAR, SIXTH SEMESTER SYLLABUS

TP-6 Urban Planning. On-the-spot study of an existing settlement. Contemporary problems of settlements, Current theories on physical planning. New towns and cities. Environmental impact of planned and unplanned growth, regional linkages, indigenous life support systems in rural India. Natural eco-systems and interdependence of systems in the biosphere. Rural housing problems and policies.

Stage II

FOURTH YEAR, SEVENTH SEMESTER SYLLABUS

TP-7 Housing and Urban Development. Social-economic aspects of urban housing and problems of slums. Housing policy, finance and development. Modern city planning process, survey methods and programme analysis techniques. Master Plans. Site planning and the rationale of urban regulatory controls, densities and related concepts. Urban redevelopment and renewal urban traffic and transportation planning. Seminar on human settlements.

10. ART APPRECIATION

The course is considered as a medium for understanding architecture as one of the principal arts in the patheon of human creativity. The flowering of aesthetic sensibilities and a taste for the visual and sensory appeal of physical form. The emphasis is to make students into connoisseurs of art rather than consummate artists themselves.

Stage I

SECOND YEAR, THIRD SEMESTER

AA-3 History of Art. Art through the ages, architecture as art, milestones in art from the prehistoric, Paleolithic, Neolithic, classical, medieval, renaissance and modern periods. Indian art heritage, Indus valley to the present day.

SECOND YEAR, FOURTH SEMESTER

AA-4 Art consciousness. Aesthetics, perception, symbolism, expression, style, fashion, appropriateness and values. Critical appraisal of examples from the visual as well as performing arts. Seminar Course.

The following courses are classified under the stream of enabling skills which shall help students in finding methods of learning, problem solving and expression of ideas, relevant to all subjects in the curriculum. They will introduce students to the full range of possibilities with simple exercises in their application. The students are expected practice extensively with a view to their own personal improvement till a satisfactory standard is achieved.

11. MATHEMATICS: Stage I

FIRST YEAR, FIRST SEMESTER SYLLABUS

XM-1 Differentiation, maxima and minima, integration, menstruation, centroids and moment of inertia, simple differential equations, Geometric mapping, cartography, matrix algebra, vector algebra.

12. WORKSHOP

FIRST YEAR, FIRST SEMESTER SYLLABUS

WS-1 Develop a hands on approach, skills of working with different materials and the ability to choose an appropriate material as and when required for presentation or design purposes. Working with model making materials like thermocol, paper, wire etc. Basic workshop techniques for carpentry and joinery, sheet metal work, fabrication and foundry as an extension to Building Construction course.

13. **GRAPHICS**: Stage I

FIRST YEAR, FIRST SEMESTER

XG-1 Basic Architectural Drawing. Freehand and mechanical drawing appropriate to architectural applications. Projections, symbols, lettering, conventions; values in drawn lines, tone, texture, colour and light, sciagraphy. indoor and outdoor sketching.

FIRST YEAR, SECOND SEMESTER

XG-2 Basic Design and Communication Graphics. Studies in composition, scale and proportion, rhythm, harmony and character, diagrams, ideograms, business graphics, skills and presentation techniques.

SECOND YEAR, THIRD SEMESTER

XG-3 Architectural Presentation Techniques. Three-dimensional views, cut-away views, architectural rendering and model making in different media, colour presentation, optics and kinetics, Life drawing, Art lettering.

SECOND YEAR, FOURTH SEMESTER

XG-4 Advanced Business Presentation. Multi-media presentation, Reprographic techniques, print-making, architectural photography, Audio-visual projection, animated graphics. Business graphics appropriate for illustration of reports and as accompaniments for seminars.

14. <u>COMPUTER APPLICATIONS IN ARCHITECTURE</u>: Stage I

FIRST YEAR, FIRST SEMESTER

XC-1 Introduction to computers as an analytical tool. Hardware and software. Computer languages, basic operations and applications such as word-processing and database management, simple computer programming.

FIRST YEAR, SECOND SEMESTER SYLLABUS

XC-2 Computer programming for structural design, Project documentation and management. Computer Graphics, Computer-aided design and drawing.

The following courses are classified under optional subjects wherein the exact course content will vary depending on the students' choice, their interests and the interests of the School as an institution. It is possible that, consistent with the school's commitments from time to time, certain themes may be permitted and students encouraged to choose their subject matter, for study or research, accordingly.

15. ELECTIVES: Stage II

Electives courses shall be offered on the basis of availability of expertise both within the faculty as well as from outside. The endeavour shall be to offer a wide variety for students to choose from commensurate with their abilities and interests.

16. PROJECT REPORT / DISSERTATION : Stage II

PRX Project Report is intended to keep the students in touch with academic world while they are out of the School and doing field training in professional offices or construction sites. The students are expected to choose topics which are of special interest to them and prepare a report after research.

The topics shall be whetted by a Project Co-ordinator. The topics may be related to the work done during the training period and on certain occasions certain topics may be assigned by the school in as much they would form a part of a major research project which the school may be handling at that time.

17. SEMINAR: Stage II

SRX The Seminar shall be a research paper on a subject of theoretical nature on any aspect of architecture. This may or may not be related to the thesis topic. The overall supervision shall be by a Seminar Co-ordinator to be Appointed from within the faculty and the individual guidance shall be provided by experts in the subject, preferably from within the faculty but in exceptional cases, if found expedient in the opinion of the Co-ordinator, outside experts may be appointed.

The thrust of the seminar shall be on achieving a thorough understanding of the topic of study and on the ability to present it to an intelligent and critical guidance.

17. ARCHITECTURAL THESIS: Stage II

ADT The Architectural Thesis is the culmination of the development of the student's knowledge, attitudes and skills over the course of studies in architecture. It is an occasion for exercising conscious choices in the field, based on the student's personal abilities and inclinations, and for testing out his commitment. The student, in consultation with the faculty, is expected to demonstrate through an imaginative approach, his expertise in effecting positive changes in our built environment.