



FIRST SEMESTER - B.ARCH

SR NO	SUBJECT NAME AND COURSE CODE	COS	
		On completion of the Course the students will be able : - Understand, Achieve, develop -competency, confidence and capability to / about :-	
01	1S-A-1 BASIC DESIGN & VISUAL ARTS	CO1	Development of fine arts (visual and performing arts) and Inter - dependency of visual arts, architecture, painting and sculpture
		CO2	Principles of Basic Design, Visual art and its role in Architectural expression
		CO3	Know-how of visual properties of 2-Dimensional forms both geometrical and non - geometrical surfaces and visual textures, optical illusion
		CO4	Free - hand line sketching and drawing of natural and man - made objects
		CO5	Theory of colours and its sensible application for built form
		CO6	To effectively adopt, apply, integrate, implement and practice this acquired knowledge and skills in all their future studies / works especially in designing of various types of buildings and making presentations through 2 nd to 7 th semester, as well during their Internship in an Architect's Office and for their Project (Thesis) of 10 th semester.
		CO7	Finally leading the students to fully equip themselves with Professional Competency and Capabilities to incorporate and implement the gained knowledge and skills in all their future works be of design, presentation etc as Professional Architects.
02	1S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS – I	CO1	Elements of building from foundation to roof - their functions / purpose, materials, shapes
		CO2	Concept of the logic of structural stability, span and load, support and supported elements
		CO3	Site context such as Topography, climate and soil conditions
		CO4	Structural systems such as Load - bearing and framed structure
		CO5	Characteristics and use of materials such as Bricks, Stones, Timber, Cement, Steel, Sand, Water, Aggregate
		CO6	To effectively adopt, apply, implement and practice this learning in all their future studies, especially related to design, planning and construction of various studio assignments of subjects of Architectural design, through 2 nd to 7 th semester, as well during their internship in an Architect's office and there- after in their project(Thesis) work in 10 th semester
		CO7	Finally leading the students to fully equip themselves with professional competency and capability to incorporate, detail out, execute the acquired knowledge and experience in all their future works as professional Architects.
03	1S-A-3 STRUCTURAL DESIGN & SYSTEMS – I	CO1	Forces and their resolutions relation to equilibrium and stability of the structure
		CO2	Understanding and application of equilibrium, stability of structure and various forces acting on the structure
		CO3	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions through 2 nd to 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO4	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects.
04	1S-A-4 HISTORY OF ART & ARCHITECTURE – I	CO1	Gaining knowledge of Architectural perspective related to heritage and antiquity
		CO2	Architectural Styles their chronological advancement and various natural and man- made reasons affecting the styles
		CO3	Visualizing and recognizing Architectural Illustrations Interpreting plans, elevations, architectural vocabulary.
		CO4	Critically analyzing structures and settlements - from Pre - historic era in relation to aesthetics and planning
		CO5	Use this basic learning as a solid base for all their future studies of this subject in next two semesters as well through 4 th to 7 th Semester, as well during their Internship in an Architect's Office.

		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to use this acquired knowledge / know-how in all their future works as Professional Architects.
05	1S-A-5 ARCHITECTURAL GRAPHICS I	CO1	Learning free hand drawings, various graphical symbols to represent building materials, trees, human figures, vehicles.
		CO2	Understanding various scales, their ratios and application and techniques in drafting / drawing various objects.
		CO3	Understanding use and application techniques of various drafting / drawing tools, equipments and learning to draft / draw
		CO4	Learning and drawing the formatting of drawing sheet; Architectural lettering, dimensioning techniques, methodologies
		CO5	To use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their higher / future studies through 2 nd to 7 th Semesters, as well as Internship in an Architect's office
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.

06	1S-A-6 WORKSHOP PRACTICE-I	CO1	About various tools and implements used in various trades associated with building construction
		CO2	Their scopes and limitation in use/application, their handling, safeties and precaution to be followed/practiced
		CO3	Learning basics of model making of smaller dimensions, basic timber joineries.
		CO4	Employ this learning in all their future studies through 2 nd to 7 th Semester, as well during their Internship in an Architect's Office particularly with respect to model making work and on site working.
		CO5	Finally leading the students to equip themselves, with Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work as Professional Architects.
07	1S-A-7 COMPUTER APPLICATION (NG)	CO1	Non Graphical computer application of Microsoft Office application such as of MS Word, MS Excel, MS Power Point Presentation and related applications and techniques
		CO2	Employ this learning in all their future studies through 2 nd to 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well
		CO3	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work as Professional Architects.
08	Elective A 1S-AA-1 COMMUNICATION SKILLS - I	CO1	Communication skills and techniques through various mediums such as, of speaking, writing, body language/ expressions with the emphasis on architectural vocabulary
		CO2	Enabling and equipping the students to effectively communicate their concepts, reasonings to all with whom they have to interact now or in future times.
		CO3	Use/ employ this learning in all their future studies through 2 nd to 7 th semesters as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO4	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
09	Elective A 1S-AA-1 SKETCHING AND RENDERING	CO1	Exploring various art and presentation forms and mediums by applying fundamentals, skills, techniques of sketching, rendering for presenting, representing, illustrating various elements of buildings and associated objects, accessories
		CO2	Skills, techniques of sketching to illustrate various elements of buildings and associated objects, accessories
		CO3	Skills, techniques of rendering to illustrate various elements of buildings and associated objects, accessories.
		CO4	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 2 nd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects
10	Elective B 1S-AA-2 SCALE AND PROPORTION	CO1	Scales- its attributes, its application in drawings and designs
		CO2	Proportions- its concepts, its importance and contribution in designing ancient and contemporary structures and its relations to ratio in nature
		CO3	And sensibly and effectively applying, adopting, integrating, implementing and practicing these knowhow, techniques and skills in all the future works related to designing of buildings and its components through 2 nd to 7 th semesters, as well during their Internship in an Architect's office.
		CO4	Finally leading the students to fully equip themselves with Professional Competency and Capabilities to incorporate the acquired knowledge and skills in all their future designs of various buildings as Professional Architects.

SECOND SEMESTER - B.ARCH

01	2S-A-1 ARCHITECTURAL DESIGN I	CO1	Forms, space and design of various building elements in relation to Anthropometry
		CO2	Principles / theories of Design and Climate
		CO3	Visualisation and development of form and of furniture and facilitation
		CO4	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 3 rd to 7 th Semester, as well during their Internship in an Architect's Office and thereafter in their Project (Thesis) work of 10 th Semester as well.
		CO5	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using the acquired knowledge and experiences in all their future Designs of various Buildings as Professional Architects.
02	2S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –II	CO1	Masonry work employing different materials - Principles / rules
		CO2	Lintels and Arches - Principles, Structural behaviour, types
		CO3	Timber joinery - Principles, Types, uses
		CO4	Doors and windows out of timber - Design Principles, types, joinery
		CO5	Characteristics and use of materials such as Bricks, Stones Cement, Lime, Concrete, Glass - their structural strength, aesthetic qualities
		CO6	Criteria for making choice of appropriate material for various use / situations
		CO7	To effectively, adopt, apply, implement and practice this learning in all their future studies, especially related to design, planning and construction of various studio assignments of subjects of Architectural design, through 3 rd to 7 th semester, as well during their internship in an Architect's office and there- after in their Project (Thesis) work in 10 th semester
		CO8	Finally leading the students to fully equip themselves with professional competency and capability to incorporate, detail out, execute the acquired knowledge and experience in all their future works as professional Architects
03	2S-A-3 STRUCTURAL DESIGN & SYSTEMS- II	CO1	The effects of forces on structure in the form of simple stresses shear stresses bending stresses and torsion stresses on the monolithic sections and composite sections
		CO2	Elastic and thermal properties of materials
		CO3	Knowledge of stress and strain developed on various materials.
		CO4	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions through 3 rd to 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO5	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects.
04	2S-A-4 HISTORY OF ART & ARCHITECTURE –II	CO1	Identifying and recognizing through Architectural Illustrations such as plans, elevations, sections to understand main characteristics of various classical Architectural Periods and styles
		CO2	Understanding major concepts, other influences that shaped architecture during classical and medieval era in the west.
		CO3	Recognizing, distinguishing various religion architecture in India - their role and importance in shaping cultural heritage of India and their response to local regional contexts.
		CO4	Use this learning in all their future studies of this subject in next semester as well through 4 th to 7 th Semester, as well during their Internship in an Architect's Office.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, as Professional Architects.
05	2S-A-5 ARCHITECTURAL GRAPHICS II	CO1	Drawing-Principles and techniques of Orthographic Projections of object/objects in different positions.
		CO2	Techniques of drawing complex projections such as section plane in different angles, drawing of true section by slicing method.
		CO3	Surface development and interpenetration of solids.
		CO4	Development of Drafting skills for architectural drawings.
		CO5	Use this learning to represent their designs by adopting and practicing the art and techniques in all their future designs solution, construction drawings through 3rd to 7th Semesters; as well during their Internship in an Architect's office.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
		CO1	Learning about various tools and implements with emphasis on those tools, implements used for finishings such as for painting, polishing and similar finishes, the methodologies/handling of such tools their use/applications, precautions to be practiced
		CO2	Use of P.O.P/Clay/similar products to cast and create new shapes, forms, compositions.

06	25-A-6 WORKSHOP PRACTICE - II	CO3	Model making for larger dimensioned structures/objects their finishes.
		CO4	Use / employ this learning in all their future studies through 3 rd to 7 th Semester, as well during their Internship in an Architect's Office.
		CO5	Finally leading the students to equip themselves, with Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work as Professional Architects.

07	2S-A-7 CLIMATOLOGY	CO1	Understanding Climate and factors responsible for its variations in different regions
		CO2	Thermal comfort fundamentals and its significance, human needs in relation to built environment.
		CO3	Heat exchange its principles/fundamental relationship of man and built environment
		CO4	Use this learning into all their future studies more specially to effectively integrate and detail/work out in designs of various types of built spaces through 3 rd to 7 th semester as well during their Internship in an Architect's office, project (Thesis) work of 10 th Semester as well.
		CO5	Finally leading the students to fully equip themselves with Professional Competency and Capabilities to integrate, plan/design, detail out and execute employing the acquired knowledge in all their future Designs of various Buildings as Professional Architects
08	ELECTIVE A 2S-AA-1 SKETCHING AND RENDERING	CO1	Learning through inspiration from nature and masters- emphasizing on scales, shapes, proportions, colours, textures, materials
		CO2	Design process and free hand skills, techniques to express/ represent architectural spaces and objects
		CO3	Integrate this knowhow in presenting/ drafting architectural drawing for design and construction.
		CO4	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 3 rd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
09	ELECTIVE A 2S-AA-1 PRESENTATION SKILLS	CO1	Effective presentation by use of innovative ways of various effects, options and facilities offered by packages like power point and their online and offline alternatives.
		CO2	Innovative ways of using presentations and of public speaking
		CO3	Use this learning/ know how to represent their designs and drawings by adopting and practicing the art, skills and techniques in all their future studies through 3 rd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO4	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
10	ELECTIVE A 2S-AA-1 PUBLIC SPEAKING - II	CO1	Ability to speak, communicate
		CO2	Present their views, reasoning, concepts, drawings, etc., without fear or anxiety to their teachers, jury members
		CO3	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 3 rd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO4	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs as Professional Architects.
11	ELECTIVE A 2S-AA-1 COMMUNICATION SKILLS - II	CO1	Enhance know-how, skills and abilities for communication
		CO2	Improved understanding of English language to enable effective communication in various situations, platforms
		CO3	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 3 rd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO4	Finally leading the students to equip themselves, with Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works as Professional Architects.
12	ELECTIVE B 2S-AA-2 FUNDAMENTALS OF DRAWING TECHNIQUES	CO1	Language, grammar/ script of perfect architectural drawings.
		CO2	Principles, techniques, practices of Graphics, Description and Dimension as well as of Schedules, Tables, Notes.
		CO3	To prepare flawless drawings, Color codes, formatting of drawings, area statement.
		CO4	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 3 rd to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
		CO1	Steel fabrication work, workshop and on site practices, design
		CO2	Construction parameters and their detailing for various elements of buildings fabricated out of steel

13	ELECTIVE B 2S-AA-2 FUNDAMENTALS OF SMITHY	CO3	Use this learning/ know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 3rd to 7th semesters, as well during their Internship in an Architect's office.
		CO4	Finally leading the students to equip themselves, with Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
14	ELECTIVE B 2S-AA-2 PHOTOGRAPHY	CO1	Camera operations, measuring exposure
		CO2	Selection of frames
		CO3	Post processing techniques and tools.
		CO4	Use this learning in all their future studies through 3rd to 7th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10th semester as well.
		CO5	Finally leading the students to equip themselves, with Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works as Professional Architects.

THIRD SEMESTER - B.ARCH

01	3S-A-1 ARCHITECTURAL DESIGN-II	CO1	Horizontal and Vertical Circulation/Movement pattern and its complexity
		CO2	Concepts of plan form, Volume, Space organisation and integration in terms of facilitation
		CO3	Application of building materials to evolve a design incorporating their aesthetic appeal function qualities and elementary structural concepts to evolve specific forms.
		CO4	Climatic considerations for the design, orientation of building(s) on site etc
		CO5	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 4 th to 7 th Semester, as well during their Internship in an Architects Office and thereafter in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using the acquired knowledge and experiences in all their future Designs of various Buildings as Professional Architects
02	3S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –III	CO1	Staircases of different Geometrical forms and materials
		CO2	Types of floors and of various materials
		CO3	Roofs of various Geometrical forms and materials
		CO4	R.C.C framed structures covering all components such as footings, columns, beams, lintels, chajjas, canopies, slabs, stairs etc
		CO5	To effectively adopt, apply, implement and practice this learning in all their future studies especially related to design / planning and construction of various studio assignments of subjects of Architectural design, of Construction through 4 th to 7 th semester, as well during their internship in an Architect's office and there- after in their Project Work of 10 th semester.
		CO6	Finally leading the students to fully equip themselves with Professional Competency and capability to incorporate, detail out, execute the acquired knowledge and experience in all their future works as Professional Architects.
03	3S-A-3 STRUCTURAL DESIGN & SYSTEMS – III	CO1	Understand and calculate stresses developed due to Fluid pressure
		CO2	Understand and calculate stresses developed due to Earth Pressure as well as on oblique sections
		CO3	Learning the effect of various types of loads on a beam in terms of shear force and bending moment at any section to get a basic idea of design parameters
		CO4	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions through 4 th to 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO5	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects.
04	3S-A-4 HISTORY OF ART & ARCHITECTURE –III	CO1	Distinguishing various development in design, construction techniques with respect to concepts
		CO2	Personal philosophies of architects, prevailing movements and styles that shaped today's architecture
		CO3	Interpreting motivation, socio-cultural forces affecting the design and the process of creating newer relevant forms
		CO4	Applying critical thinking to theories in the History of Architecture.
		CO5	Learning to manage research dealing with architectural precedent practices with enhanced skills.
		CO6	Use / employ this learning in all their future studies through 4 th to 7 th Semester, as well during their Internship in an Architect's Office.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / Designs, as Professional Architects.
05	3S-A-5 ARCHITECTURAL GRAPHICS-III	CO1	Sciography its study with solid blocks and building elements
		CO2	One, Two and Three point perspectives of building elements and building
		CO3	Learning to represent their designs and construction drawings by adopting and practicing the art and techniques in all their higher / future design solutions and construction drawings through 4 th to 10 th Semesters, as well during their Internship in an Architect's office.
		CO4	Finally leading the students to equip them with Professional Competency and Capabilities to employ / use this acquired knowledge in all their future designs, construction work of various Buildings as Professional Architects
06	3S-A-6 SURVEYING &	CO1	Types of surveys, fundamentals, various methodologies/systems
		CO2	Various Instruments - equipments and their use/application.
		CO3	Reduced levels, contours, linear and angular measurements
		CO4	Plain Table Surveys

	LEVELING	CO5	Effectively employing this know-how for topographical studies, site planning, layouts of building(s) various services /infrastructures in all their future building works/projects during their Internship in an Architects Office as well as in Practice as Professional Architects.
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07	3S-A-7 CLIMATE AND ARCHITECTURE	CO1	Principles/fundamentals of passive and advance passive solar control
		CO2	Systems/methodologies - techniques to modulate thermal conditions of built environment
		CO3	Traditional building designs and innovative use in contemporary Architecture.
		CO4	The principles/fundamentals - process of climate Responsive building designs, energy conservations
		CO5	Use this learning / know-how to effectively integrate into their designs by adopting and practicing the techniques in all their future studies through 4 th to 7 th Semesters, Internship in an Architects office and in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, of various Buildings as Professional Architects.
08	Elective A 3S-AA-1 VERNACULAR ARCHITECTURE	CO1	Fundamentals of vernacular architecture with emphasis on Indian dwellings
		CO2	Concepts, construction techniques/ systems, skills and materials- their co-relation
		CO3	Their co-relation, contextually to socio-cultural, geographical (regional), climatic factors.
		CO4	Use this learning/ know how to represent their designs and construction by adopting and practicing the art, skills and techniques in all their future studies through 4 th to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well.
		CO5	Finally leading them to be Proponent and Practitioner of Vernacular Architecture in all their future works as professional architects.

09	Elective A 3S-AA-1 ENVIRONMENTAL IMPACT	CO1	Environmental air quality control
		CO2	Environmental water quality control
		CO3	Environmental noise quality control
		CO4	Environmental ethics and control measures for socio-economic quality
		CO5	Environmental impact assessment
		CO6	Environmental management plan
		CO7	Use this learning in all their future studies as well as in design/ planning/ construction of built spaces and environments, objects when they move to higher semester that is 4 th to 7 th semester as well during their Internship in an Architect's office.
		CO8	Thus, leading them to be Proponent and Practitioner of this learning of Environmental Impact in all their future works as Professional Architects.
10	Elective A 3S-AA-1 ENVIRONMENTAL STUDIES	CO1	Environmental conservation of natural resources
		CO2	Minimizing environmental pollution
		CO3	3R concept, laws and legislations for environmental protection
		CO4	Resettlement and rehabilitation of people
		CO5	Population growth, human health, human rights
		CO6	Role of information technology in protection of environment.
		CO7	To effectively adopt, apply, integrate, implement and practice this acquired knowledge in all their future studies, specially related to design, planning and construction of various studio assignments of subjects of architectural design, through 4th to 7th semester as well during their Internship in an Architect's office and for their Project (thesis) of 10th semester.
		CO8	Thus, leading them to be Proponent and Practitioner of this learning of such sustainable practices in all their future works as Professional Architects.

11	ELECTIVE B 3S-AA-2 HISTORY OF INDIAN TRADITIONAL ART AND CRAFT	CO1	Understanding various arts and crafts of India such as of Madhubani, Warlli and Patachitra
		CO2	Understanding their historical perspective
		CO3	Principles, medium and means of expression, their socio- cultural and regional context
		CO4	Influences and ideologies and ways and means to adopt and integrate in various Architectural Solutions
		CO5	Use this learning/ know how to represent their design works by adopting and practicing the art, skills and techniques in all their future studies through 4th and 7th semesters, as well during their internship in an architect's office.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired know how in all their future design works of various buildings as Professional Architects as well to be Proponent and Practitioners of this tradition
12	ELECTIVE B 3S-AA-2 CRITICAL APPRECIATION	CO1	Theoretical basis and modes of Architectural Criticism
		CO2	Normative theories of Architecture and ways to communicate the criticism.
		CO3	Normative Criteria Gestalts theories
		CO4	Critical thinking, analysis and prevalent discourses and critical presentations.
		CO5	Use/ employ this learning in all their future studies through 4th to 7th semesters and in their Project (thesis) work of 10th semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
13	ELECTIVE B 3S-AA-2 ARCHITECTURAL DOCUMENTATION	CO1	Various data collection- its means and methods
		CO2	Data interpretation, analysis, presentation.
		CO3	Documentation - preplanning, site work
		CO4	Planning and management and measurements.
		CO5	Means, methods, systems to prepare/ provide the architectural documentation
		CO6	Use this learning/ know how by adopting and practicing the art, skills and techniques, either fully or partially in all their future studies through 4th to 7th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10th semester as well.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs works of various buildings as Professional Architects.

FOURTH SEMESTER - B.ARCH

01	4S-A-1 ARCHITECTURAL DESIGN III	CO1	Application of various types of buildings materials to evolve a design with aesthetic appeal
		CO2	Functional quality, integrating structural concepts leading to a desired plan/building form
		CO3	Design Solutions - Integrating Climate, orientation of building in context to site
		CO4	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 5 th and 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using this acquired knowledge / know-how in all their future works / designs, of various Buildings as Professional Architects
02	4S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –IV	CO1	Windows made out of steel, Aluminium
		CO2	Sliding doors, sliding and folding doors, revolving doors, using various materials and steel rolling shutters, collapsible gates
		CO3	Partitions out of Aluminium, timber, steel
		CO4	Temporary structures and temporary supports to facilitate construction activities like timbering to trenches, form work, centering, shoring and underpinning
		CO5	Characteristics and use /application of building materials such as Aluminium, Copper, Steel and Titanium in design and construction of buildings.
		CO6	To effectively apply, implement and practice this learning in all their future studies especially related to designing/planning/construction in various studio assignments in subjects of architectural design and construction through 5 th to 7 th semester, as well as during their internship in an architect's office and thereafter in their project work of 10 th semester
		CO7	Finally leading the students to fully equip themselves with professional competency and capabilities to incorporate, detail out, execute the acquired knowledge and experience in all their future works as professional architects.
03	4S-A-3 STRUCTURAL DESIGN & SYSTEMS- IV	CO1	The concept of Fix end moments along with the bending moment and shear force due to loads
		CO2	To arrive at the design moments considering the above two facts
		CO3	Understanding the analysis of framed structures.
		CO4	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions through 5 th to 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO5	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects.
04	4S-A-4 BUILDING SERVICES-I	CO1	Planning/designing and working principles of water supply and distribution systems
		CO2	Planning/designing and working principle of sewage collection treatment and disposal system
		CO3	Planning/designing and working principle of Waste water collection treatment and disposal system
		CO4	Planning/designing and working principle of Storm water collection and disposal systems.
		CO5	Planning/designing and working principle of Solid Waste collection, treatment and disposal systems
		CO6	Effectively plan, integrate and detail out these services in designs of various types of buildings through 5 th to 7 th Semester as well during their Internship in an Architect's Office; Project (Thesis) work of 10 th Semester as well.
		CO7	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to integrate, plan/design, detail out and execute employing the acquired knowledge in all their future Designs of various Buildings as Professional Architects.
05	4S-A-5 ARCHITECTURAL GRAPHICS	CO1	Sciography, its study with solid blocks and various building elements
		CO2	Perspective views- various types and using various mediums
		CO3	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the skills and techniques in all their future design solutions and construction drawings through 5 th to 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO4	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.

06	4S-A-6 THEORY OF ARCHITECTURE-I	CO1	Critical appraisal of form, space, volume
		CO2	Organisation of space(s)
		CO3	Learning about principles of design, scale and proportion
		CO4	Analysis and application of this learning by relating it to any type of building
		CO5	Use this learning in all their future studies through 5 th to 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to use this acquired knowledge / know-how in all their future works as Professional Architects.
07	4S-A-7 THEORY OF LANDSCAPE ARCHITECTURE	CO1	Critical appraisal of historical Landscapes in terms of History, the psychological context of the society
		CO2	Prevalent social conditions
		CO3	Study of landform, vegetation and climate of the region.
		CO4	Principles of the landscape design so as to accumulate the knowledge regarding development of various historical landscape styles
		CO5	Appreciation of street landscape features along with the contours
		CO6	The various light fixtures and outdoor sitting arrangements etc
		CO7	Use this learning in all their future studies through 5 th to 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO8	Finally leading the students to equip themselves, with Professional Competency and Capabilities to use this acquired knowledge / know-how in all their future works related to various Landscape Architecture as Professional Architects.
08	ELECTIVE A 4S-A-8 GRAPHIC SOFTWARE	CO1	A comprehensive know how of Computer Aided Design
		CO2	Application and use in Planning and Architectural projects.
		CO3	Composing, annotation, dimensioning of projects in detail
		CO4	Plotting – printing in various mediums.
		CO5	Ability to create their own blocks and its use in design
		CO6	Use this know how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 5 th to 7 th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10 th semester as well
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired know how in all their future designs, construction works of various buildings as Professional Architects
09	ELECTIVE B 4S-A-9 DESIGN OF BUILDING ELEMENTS	CO1	Design of building elements
		CO2	Their attributes
		CO3	Materials and expressions in Architectural design.
		CO4	To effectively adopt, apply, integrate, implement and practice this acquired knowledge in all their future studies especially related to design, planning and construction of various studio assignments of subjects of Architectural design through 5 th to 7 th semesters, as well during their Internship in an Architect's office
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.
10	ELECTIVE B 4S-A-9 PRODUCT DESIGN	CO1	Learning fundamental, principles of product design
		CO2	Evolving and developing a product and its features.
		CO3	Need and purpose of a product
		CO4	Its design considerations, methodologies.
		CO5	Learning- identifying the market need/ demands, strategies for marketing the product
		CO6	Use/ employ this learning in all their future studies through 5 th to 7 th semesters as well during their Internship in an Architect's office
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs as Professional Architects
11	ELECTIVE B 4S-A-9	CO1	Basics/ fundamentals of this subject with emphasis on human dimensions, proportions
		CO2	Skill and techniques to and knowhow for design, detailing and construction of various built spaces
		CO3	Co-relating to function/ planned activities to and of furniture, equipments, and accessories
		CO4	To ensure optimum utilisation / working of every space and objects designed by Architects.

**	ANTHROPOMETRICS AND ERGONOMICS	CO5	Use this learning/ know how to represent their designs and construction by adopting and practicing the art, skills and techniques in all their future studies through 5th to 7th semesters, as well during their Internship in an Architect's office and in their Project (thesis) work of 10th semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works/ designs, construction works of various buildings as Professional Architects.

12	ELECTIVE B 4S-A-9 PHOTOGRAPHY	CO1	Learning Theory of Photography. Learning Light effects, the built form and Photographic elements
		CO2	Photography Data Management
		CO3	Learning Photo Shooting techniques, equipment's for Architectural photography of interiors and exteriors
		CO4	Learning Thematic photography
		CO5	Photographing architectural buildings and spaces-challenges and solutions. Photographic Documentation
		CO6	Photographic Documentation
		CO7	Use/ employ this learning in all their future studies through 5th to 7th semesters as well during their Internship in an Architect's office and in their Project (thesis) work of 10th semester as well
		CO8	Finally leading the students to equip themselves, with Competency and Capabilities to employ/ use the acquired knowledge/ know how in all their future works as Professional Architects.

FIFTH SEMESTER - B.ARCH

01	5S-A-1 ARCHITECTURAL DESIGN-IV	CO1	Planning/designing buildings specific to site, its characteristics, climate and overall context
		CO2	Significance / importance of structured open spaces, meaningful functional and symbolic relationship between them and surrounding spaces
		CO3	Learning about the use of fenestration treatment to achieve visual language - conformity to activities
		CO4	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 6 th and 7 th Semester, as well during their Internship in an Architect's Office and thereafter in their Project (Thesis) work of 10 th Semester as well
		CO5	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using the acquired knowledge and experiences in all their future Designs of various Buildings as Professional Architects.
02	5S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –V	CO1	False ceilings - design, detailing, incorporating various services
		CO2	Water proofing, dampness control, causes, control systems
		CO3	Expansion joints, types, design and detailing
		CO4	Characteristics and use of materials such as Paints, Varnishes, Mortar for plaster, the techniques, methodologies, basics, tools and skills of applying as finishing items
		CO5	Earth Quake Resistant Structure, Design/Planning Principles, fundamentals, methodologies, strategies, detailing etc
		CO6	To effectively adopt, apply, implement and practice this learning in all their future studies especially related to design / planning and construction of various studio assignments of subjects of Architectural design, of Construction through 6 th to 7 th semester, as well during their internship in an Architect's office and there- after in their Project Work of 10 th semester
		CO7	Finally leading the students to fully equip themselves with Professional Competency and capability to incorporate, detail out, execute the acquired knowledge and experience in all their future works as Professional Architects.
03	5S-A-3 STRUCTURAL DESIGN & SYSTEMS – V	CO1	Designing RCC beams of various types
		CO2	Dimensions and reinforcement required in the section for various loading conditions.
		CO3	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions through 6 th to 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO4	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects.
04	5S-A-4 BUILDING SERVICES -II	CO1	Planning / designing and working principles of Electrical supply and distributions systems
		CO2	Planning / designing and working principle of water supply and distribution systems.
		CO3	Planning/designing and working principle of Solid Waste collection and disposal systems
		CO4	Planning / designing and working principle of Rain water harvesting and conservation systems
		CO5	Use this learning into all their future studies more specifically to effectively plan, integrate and detail out these services in designs of various types of buildings through 6 th to 7 th Semester as well during their Internship in an Architect's Office; Project (Thesis) work of 10 th Semester as well

		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects
05	SS-A-5 ARCHITECTURAL GRAPHICS	CO1	Learning every aspect of Development Control rules, Building Bye-laws as per National Building code
		CO2	Preparing Submission drawing in conformity to rules, regulations as stipulated in Development Control Rules/Building Bye laws.
		CO3	Learn principles, fundamentals, techniques, methodologies, skills and tools and to prepare Working / Construction drawings of a double storied building
		CO4	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 6 th to 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects

06	SS-A-6 THEORY OF ARCHITECTURE -II	CO1	Critical appraisal of various theories of Architecture
		CO2	Learning to correlate and contextualise with form, space, volume, organisation of space(s)
		CO3	Understanding of principles of design, theories related to scale and proportion and their application.
		CO4	Use this learning in all their future studies through 6 th to 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to use this acquired knowledge / know-how in all their future works as Professional Architects.
07	SS-A-7 Specifications	CO1	Specifications - its importance, utility and application – Various types
		CO2	Principles, methodologies, techniques/skills of writing/preparing specifications
		CO3	Contents, order, sequence for all types of material used in design, construction of building so also for various building services
		CO4	Workmanship for every Item of building construction - inclusive of various services provided in buildings
		CO5	Use / employ this learning in all their future studies through 6 th to 7 th Semester, as well during their Internship in an Architect's Office
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
08	ELECTIVE A AA-1 ADVANCED BUILDING MATERIALS	CO1	Building materials developed recently-their attributes, properties
		CO2	Smart substance intelligent interfaces
		CO3	Sensors surfaces and response to changes in environment to achieve increased performance and function
		CO4	Their integration in Architectural designs
		CO5	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 6 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
			Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
09	ELECTIVE A AA-1 COMPUTER APPLICATION	CO1	Basic and advanced commands for creating , editing , rendering
		CO2	Analysis of sun path and climate charts
		CO3	Computer software for design of building , generate views and present work digitally.
		CO4	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 6 th to 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / Designs, construction work of various Buildings as Professional Architects.
10	ELECTIVE B SS-AA-2 APPROPRIATE TECHNOLOGY	CO1	Adoption of suitable design / construction techniques , materials and system
		CO2	Plan and provide cost effective design solutions
		CO3	Promoting sustainable development
		CO4	Use this learning in all their future studies as well as in design / planning, construction of built space through 5 th to 7 th semester, and during their Internship in an Architect's Office .
		CO5	Thus leading them to be proponent and practitioner of employing Appropriate Technology and thereby of Sustainable Development in all their future works as Professional Architects.
11	ELECTIVE B SS-AA-2 REGIONAL ARCHITECTURE	CO1	Identifying and conserving values, principles in evolution of Vernacular built forms
		CO2	New theories of Architectural solutions in context to a specific region and its interface with surroundings regions.
		CO3	Vernacular structures/settlements - various means and methods of its Documentation
		CO4	Presentations and application in present context
		CO5	Use / employ this learning in all their future studies through 6 th to 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future Designs of various Buildings as Professional Architects.

12	ELECTIVE B 5S-AA-2 SUSTAINABLE DEVELOPMENT	CO1	Principles / fundamentals of "Sustainable Development"
		CO2	Eco-friendly/Green materials , concepts of Reduce, Reuse, Recycle
		CO3	Related technologies
		CO4	Use this learning in all their future studies as well as in design /planning , construction of Built Spaces and Objects when they move to next that is 6th semester,7th semester as well during their Internship in an Architect's Office.
		CO5	Thus leading them to be proponent and practitioner of Sustainable Development in all their future works as Professional Architects.

SIXTH SEMESTER - B.ARCH

01	6S-A-1 ARCHITECTURAL DESIGN V	CO1	Integrating Climatological, Topographical Conditions
		CO2	Conformity to Development Control Rules (D.C.R) / Building By laws
		CO3	Integrating all allied services to support the purpose/function of the buildings to be designed
		CO4	Suitable, appropriate Structural Systems in conformity to complexities of design solutions worked out
		CO5	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 6th and 7th Semester, as well during their Internship in an Architect's Office and thereafter in their Project (Thesis) work of 10th Semester as well.
		CO6	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using the acquired knowledge and experiences in all their future Designs of various Buildings as Professional Architects.
02	6S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –VI	CO1	R.C.C - Flat Slab, Grid Slab, Lift slab - various types
		CO2	Guna tile vaults and Nubion Arch roof
		CO3	Various cladding work out of materials such as, ACP, Glass, Plastics, Stainless Steel.
		CO4	Bamboo, ferro-cement, Mud - their characteristics, usefulness, application in construction of building
		CO5	High rise construction : - Design/planning - principles, fundamentals, structural systems, techniques.
		CO6	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their higher / future studies through 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
03	6S-A-3 STRUCTURAL DESIGN & SYSTEMS- VI	CO1	Make use of design criteria specified in IS-456 code book of RCC structures
		CO2	Designing different types of slabs , Columns and it's footings
		CO3	Employing this learning into all their future studies, more specifically to effectively detail/work out building design solutions by integrating/incorporating these learning's in the various Building Design solutions through 7 th Semester as well during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO4	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects
04	6S-A-4 BUILDING SERVICES - III	CO1	Audio-Video Communication Systems, their distribution systems
		CO2	Security Surveillance Systems in buildings
		CO3	Building Automation Systems
		CO4	Fire safety, prevention and fire control (fighting), Fire detection systems
		CO5	Natural and Mechanical Ventilation System for buildings
		CO6	Use / employ this learning in all their future studies more especially to effectively integrate and detail out these services in designs of various types of buildings through 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
05	6S-A-5 ARCHITECTURAL GRAPHICS VI	CO1	Principles and preparation of Toilet details.
		CO2	Principles and preparation of Kitchen details
		CO3	Principles and preparation of Stair details
		CO4	Principles and preparation of Various Services
		CO5	Principles and preparation of Floorings
		CO6	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.

06	6S-A-6 DESIGN OF HUMAN SETTLEMENTS	CO1	Development of Planning thoughts from historic to present age their design and planning principles, concepts, systems
		CO2	Planning in India from prehistoric period through British period and Post Independence.
		CO3	Pioneers and their planning concepts, works and present planning concepts, systems
		CO4	methodologies, process, surveys their implementation, management, various planning bodies / organisation, rules / act
		CO5	Urban and Rural Housing - analysis, Planning, infrastructures in Indian context
		CO6	Use / employ this learning in all their future studies through 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.

07	6S-A-7 ESTIMATING AND COSTING	CO1	Fundamentals and methodologies of Estimating
		CO2	Detailed Item wise quantities and their rate analysis of all civil items
		CO3	Items related to various building services. (for a small sized building such as a Residence)
		CO4	Fundamentals, methodologies, skills of preparing and writing Item wise brief specifications.
		CO5	Working out cost estimates
		CO6	Employing this learning, experiences into all their future studies more specifically to effectively integrate, detail out, work out estimated costs of various types of buildings (as and when if required to be done) during 7 th Semester, Project work of (Thesis) 10 th Semester as well during their Internship in an Architect's Office.
		CO7	Finally leading the students to equip themselves, with Professional Competency and Capabilities to integrate the acquired knowledge and employ the same to detail / work out the estimated costs of all types of buildings in all their future works as Professional Architects.
08	ELECTIVE A 6S-AA-1 PROJECT MANAGEMENT	CO1	Fundamentals and techniques of Project Management and means and methods
		CO2	Relationship of work, time and cost
		CO3	Stages of project management and Planning, Scheduling and Evaluation
		CO4	Application of bar charts, milestone charts in construction process
		CO5	Work Breakdown Schedule, Fundamentals of CPM (Critical Path Method) and PERT (Project Evaluation and Review Technique) for scheduling and time tracking of projects
		CO6	Construction Machinery and Equipment, their cost implication on project
		CO7	Site inspection and instructions for quality control, safety norms at construction sites
		CO8	Employing this learning's into all their future assignments, studies and projects when they move to next semester that is 7 th sem. as well as during their internship in an Architect's Office.
		CO9	Finally leading the students to fully equip themselves and develop the professional competency in them to handle the challenges and remedial solutions as well plan out better management of their own projects during construction phase and capability to incorporate this acquired knowledge in all their future works as practicing architects.
09	ELECTIVE A 6S-AA-1 ARCHITECT OFFICE AND SITE PRACTICES	CO1	Architects office-its technical, administrative, financial establishment/ setup, management, working/ operational criteria, systems, methods.
		CO2	Importance and practical implications of relevant laws, rules- regulations-that is of all statutory provisions regulating or affecting the practice.
		CO3	Management and practice of architects Office
		CO4	Relations, interactions, cooperation between contractors, consultants, clients.
		CO5	Site arrangements/ working
		CO6	All technical, non-technical, administrative, financial documents- their records.
		CO7	Use/ employ this learning in all their future studies through 7 th semester as well during their Internship in an Architect's Office and in their Project (thesis work) of 10 th semester as well.
		CO8	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ/ use this acquired knowledge/ know-how in all their future works/ Designs, construction work of various buildings as Professional Architects.
10	ELECTIVE A 6S-AA-1 COMPUTER APPLICATION IN ESTIMATION AND COSTING	CO1	Learning of preparing estimates for buildings using M.S.Excel
		CO2	Learning-to plot graph
		CO3	To solve quadratic equations
		CO4	Methodologies to prepare bills of quantities, rate analysis, cost calculations.
		CO5	Use / employ this learning in all their future studies through 7 th Semester, as well during their Internship in an Architect's Office
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects
ELECTIVE B		CO1	Principles, fundamentals, systems and techniques of improving Man environment relation
		CO2	Importance of interrelation between social, cultural and built environment
		CO3	Future threats to environment due to human behavior and interventions
		CO4	Sustainable approach for protection of Environment.

11	6S-AA-2 MAN - ENVIRONMENT RELATIONSHIP	CO5	To effectively, adopt, apply, integrate, implement and practice this acquired know-how all their future studies, especially related to design, planning and construction of various studio assignments of subjects of Architectural design, of 7 th semester as well as their internship in an Architect's office, as well in the Project (Thesis) work of 10 th Semester.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
12	ELECTIVE B AA-2 ARCHITECTURE APPRECIATION	CO1	Socio-cultural concepts geographical and climatical context
		CO2	Building materials, construction techniques and skills Shaping the architectural built-form in the past
		CO3	The moments, movements, memory and identity and role of designers, builders, patrons, clients, users as well; in shaping the said built form.
		CO4	Learning of architectural principles, fundamentals of past and present building design and construction systems
		CO5	Use / employ this learning in all their future studies through 7 th Semester, as well during their Internship in an Architect's Office
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / Designs as Professional Architects.
13	ELECTIVE B AA-2 ADVANCE SPATIAL ANALYSIS	CO1	Principles of space and its relation to built environment
		CO2	Planning concepts and acts as guidelines for Urban planning/Urban Design
		CO3	Spatial analysis employing GIS, related software's
		CO4	Interpretation of data on sheets and drawings
		CO5	Use this learning / know-how to represent their designs and construction by adopting and practicing the art, skills and techniques in all their future studies through 7 th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
14	ELECTIVE B AA-2 ENVIRONMENT PSYCHOLOGY	CO1	Principles/fundamentals of environmental psychology
		CO2	Stimulation theories, control theories, ecological psychology and issues related to personalization
		CO3	Sense of belonging and identity, place attachment in all their future studies
		CO4	Designing/planning/construction of built spaces and environments
		CO5	Employing this learning; in all their future assignments, studies and projects when they move to next semester that is 7 th semester as well as during their Internship in an Architect's Office.
		CO6	Thus leading them to be proponents and practitioners of environmental psychology in all their future works as Professional Architects.

SEVENTH SEMESTER - B.ARCH

01	7S-A-1 ARCHITECTURAL DESIGN-VII	CO1	To decide and design with regard to suitability of activity vis-a-vis the potential for the site as well the prevailing architectural style in and around the site
		CO2	To formulate and finalise various architectural design elements
		CO3	To plan iconic and landmark solutions for the proposed design/structure
		CO4	Respecting/integrating the contextual considerations of the precinct.
		CO5	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially in designing of various types of building through 7 th Semester, as well during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to incorporate, to detail out, to plan, design and execute by using this acquired knowledge / know-how in all their future works / designs, of various Buildings as Professional Architects.
		CO1	Principles, fundamentals, materials, Structural systems, usefulness, application of Grid Structures
		CO2	Principles, fundamentals, materials, Structural systems, usefulness, application of Shell Structures
		CO3	Principles, fundamentals, materials, Structural systems, usefulness, application of Folded Plate Structure
		CO4	Principles, fundamentals, materials, Structural systems, usefulness, application of Pre Cast Construction

02	7S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –VII	CO5	Principles, fundamentals, materials, Structural systems, usefulness, application of Prestressing
		CO6	Principles, fundamentals, materials, Structural systems, usefulness, application of Cladding
		CO7	Principles, fundamentals, systems, techniques and tools of designing and constructing with basics of drawings and detailing, materials involved for Temporary Structures
		CO8	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the skills and techniques in all their higher studies, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well
		CO9	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
03	7S-A-3 BUILDING SERVICES IV	CO1	All types and systems of Lifts/Elevators, Escalators
		CO2	Electrical supply and distribution systems for Multi storied / high rise buildings, group of buildings
		CO3	Air conditioning systems, distribution systems
		CO4	Use / employ this learning in all their future studies more especially to effectively plan, integrate and detail out these services in designs of various types of buildings during their Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / designs, construction work of various Buildings as Professional Architects.
04	7S-A-4 STRUCTURAL DESIGN & SYSTEMS – VII	CO1	Study of IS 800 – Design Considerations
		CO2	Steel Connections – Welded Joints a) Types of Welds b) Concentric Sections c) Eccentric Sections d) Sections in Bending e) Sections in Torsion
		CO3	Design of Tension Members, Design of Compression members – Struts / Independent
		CO4	Design of Built in Columns
		CO5	Design of Sections in Bending
		CO6	Sections Subjected to Biaxial Bending (design of purlin)
		CO7	Structural behaviour of Types of Large Span Steel Structures like Arches, Open Web Sections, Bow String Girders, Suspension Structures, Geodesic Dome, Space Structures
		CO8	Employing this learning into all their future studies, more specifically to effectively detail/work out Building Design solutions by integrating/incorporating these learning's in the various building design solutions during their Internship in an Architect's Office and so also in their Project (Thesis) work of 10 th Semester.
		CO9	Finally leading the students to be fully equipped and capable to incorporate /use this learning for all their works / projects as Professional Architects
05	7S-A-5 RESEARCH SKILLS & PROJECT INTRODUCTION	CO1	Types of Researches and Research Methodologies
		CO2	Types of surveys, methods of Data Collection, presentation and Data analysis
		CO3	Adopting, integrating, implementing and practicing these know-how and skills of Research
		CO4	To Use this learning in all their future studies and works, during their Internship in an Architect's Office and thereafter in their Project work (Thesis) of 10 th Semester and for Post Graduate Studies.
		CO5	Finally leading the students to be fully equipped, and become Competent and Capable to apply/ use this know-how and skills for all their works /project as Professional Architects
06	7S-A-6 ACOUSTICS AND ILLUMINATION	CO1	Principles / fundamentals of Acoustics. Propagation of sound - its behavior, transmission in built and un-built spaces
		CO2	Acoustical defects / problems - causes, remedies / solutions
		CO3	Acoustical materials - properties, use and application
		CO4	Noise - Noise controls - fundamentals, methodologies, noise insulation, Design Principles, solutions, detailing
		CO5	Theory of light. Principles/fundamentals of artificial Illumination; their types, system
		CO6	Sources of artificial illumination - types, utilities limitations, application
		CO7	Artificial lighting designs - Principles/fundamentals, various types /methods, for various spaces / activities, its calculation, designing and application
		CO8	Employing all this acquired know-how in all their future studies more especially to effectively plan, integrate and detail out these two services in designs of various types of buildings, semi-built and or open spaces during their Internship in an Architect's office, Project (Thesis) work of 10 th Semester as well.

		CO9	Finally leading the students to fully equip themselves, with Professional Competency and Capabilities to integrate, plan/design, detail out and execute employing the acquired knowledge in all their future Designs of various Buildings as Professional Architects.
07	ELECTIVE A 7S-AA-1 ARCHITECTURAL EDUCATION	CO1	The history of architecture education, Vitruvius theory and different traditional learning methods of Bauhaus, E'cole de Beaux Art and AA school of Architecture.
		CO2	Learning related to vertical and lateral thinking methods, different design processes and approaches for various design problems and role of creativity in Architecture
		CO3	Learning to analyse buildings using Normative criteria and Gestalt, Visual perception theories and developing critical thinking
		CO4	Use this education in all their future studies as well during their Internship in an Architects Office and in their Project (Thesis) work of 10 th Semester.
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to incorporate the acquired education in all their future works as Professional Architects
08	ELECTIVE A 7S-AA-1 INTERIOR DESIGN	CO1	Interior Design to meet the requirements of clients, well within their budgetary resources
		CO2	Ability to work out materials their specifications, estimations, costing
		CO3	Detailing, drawing work
		CO4	Execution / management of work / project
		CO5	Use this learning / know-how to represent their Interior Designs and related construction drawings by adopting and practicing the art, skills and techniques in all their future studies through 7th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to use this acquired knowledge / know-how in all their future works of Interior Designs, construction work as Professional Architects
09	ELECTIVE A 7S-AA-1 LANDSCAPE DESIGN	CO1	Understanding site conditions, Landform
		CO2	Existing trees/vegetation, the terrain, water features, site environs
		CO3	Interpreting site conditions
		CO4	Basic features such as Grid Intervals
		CO5	Services layout, natural conditions/features
		CO6	To effectively adopt, apply, integrate, implement and practice this acquired learning and experiences in all their future studies and especially when designing and providing Landscape solutions during their Internship in an Architect's Office and thereafter in their Project (Thesis) work of 10 th Semester as well
		CO7	Finally leading the students to equip themselves, with professional competency and capabilities to employ / use this acquired knowledge / know-how in all their future Landscape Designs Solutions as Professional Architects
10	ELECTIVE A 7S-AA-1 ADVANCED SPATIAL ANALYSIS	CO1	Understanding of every criteria, parameters, tools, techniques essential for design, construction and working of Green Buildings
		CO2	Basic requirements, methodologies, procedures related to Green Buildings certifications
		CO3	Use this learning / know-how to represent their designs by adopting and practicing the art, skills and techniques in all their future studies through 7th Semesters, Internship in an Architect's office and in their Project (Thesis) work of 10 th Semester as well.
		CO4	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / Designs, of various Buildings as Professional Architects. Thus leading them to be proponent and practitioner of Green Building Concepts in all their future works as Professional Architects.
11	ELECTIVE B 7S-AA-2 URBAN PLANNING	CO1	Zoning, Density, Infrastructure use
		CO2	Integration of concepts like Garden City, Neighbourhood unit and Satellite development
		CO3	Housing, Planning agencies
		CO4	Planning Legislations etc
		CO5	To use this learning in all their future studies. As well as during their Internship in an Architect's Office, in their Project (Thesis) work of 10 th Semester, and for their post -graduate studies
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use in corporate, detail out, execute this acquired knowledge / know-how in all their future works as Professional Architects
	ELECTIVE B	CO1	Urban Aesthetics-definition, elements, its correlation to Urban Design
		CO2	Process to make city live, vibrant, aesthetic and interactive to various users
		CO3	Understanding Urban design language, design dimensions, such as Morphological, Perceptual, Socio-cultural, Visual, Functional and Temporal

12	ELECTIVE B 7S-AA-2 URBAN AESTHETICS	CO4	Use this learning in all their future studies as well as during their, Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO5	Finally leading the students to equip themselves, with professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works as Professional Architects.
13	ELECTIVE B 7S-AA-2 VALUATION	CO1	Valuation-Purpose, various methods, factors affecting it
		CO2	Depreciation-Concepts, principles, various methods, factors affecting it
		CO3	Market Value, Book Value, Capital Cost, Capitalised Value, their methods of calculation and factors affecting them.
		CO4	Scales-fees for Valuation. Preparing Valuation Reports
		CO5	Use this learning in all their future studies as well as during their, Internship in an Architect's Office and in their Project (Thesis) work of 10 th Semester as well.
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works as Professional Architects
14	ELECTIVE B 7S-AA-2 CONSERVATION	CO1	Principles, systems, tools, techniques, materials and practices of Architectural Conservation.
		CO2	Use this learning/know how by adopting and practicing the art, skills and techniques in all their studies or works related to Architectural Conservation. During Internship in an Architect's office and if related to , then in their Project (Thesis) work of 10 th Semester as well.
		CO3	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works of Architectural Conservation as Professional Architects.
		CO4	Thus leading them to be proponent and practitioner of Architectural Conservation as Professional Architects

EIGHTH AND NINETH SEMESTER - B.ARCH

01	8S-A-1 AND 9S-A-1 PRACTICAL TRAINING	CO1	Acquaint themselves with Nuance of what Architectural Practice is all about
		CO2	The management, the art, skills and techniques of Running and administration of the office
		CO3	Dealing with clients, contractors, consultants and similar agencies and maintaining relationships and contacts
		CO4	All types of Architectural, submission and working drawings and models
		CO5	Preparing estimates, tender documents, specifications
		CO6	Site Practices, site co-ordinations site management
		CO7	Co-ordinations and with various Sanctioning / competent authorities
		CO8	Of accounting, finance, various tax laws
		CO9	Documentation
		CO10	Taking, recording, certifying measurements as well, preparation and certification of contractors bills that is to say almost everything of and about Architectural Practice
		CO11	Use this first- hand experience and know-how to effectively work out their Project (Thesis) work of 10 th Semester and instil and provide Confidence and Competency to enable them to establish and manage their Architectural Practice either independently or as Partnership firm

TENTH SEMESTER - B.ARCH

01	10S-A-1 PROJECT	CO1	Effectively and conscientiously incorporate, adopt and implement the acquired knowledge / understanding skills and techniques acquired during last 7 Semesters as well as during their Internship of 8 th and 9 th Semester in an Architect's Office by professionally applying all principles / fundamentals, techniques, acquired know-how, tools and skill of drawing
		CO2	Learning Holistic and effective application of all their learning of various subjects during last 9 semesters to a singular type of building or urban design related topics on their own, individually, independently, by doing relevant research, data collection, analysis
		CO3	Framing of goals and space requirements as well incorporating all technical inputs/provisions of various building support systems, structural systems and finally providing the architectural solutions complete in all respect including report writing. Similar in every respect as is done and practiced by Practicing Architects.
		CO4	Use this learning / know-how to represent their designs and construction drawings by adopting and practicing the art, skills and techniques in all their higher studies.

		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / Designs, construction work of various Buildings as Professional Architects.
02	10S-A-2 CONSTRUCTION TECHNOLOGY & MATERIALS –VIII		Principles, Fundamentals, Systems and techniques of construction Techniques, systems to cover large spans by using Short Length Timber
		CO2	Principles, Fundamentals, structural attributes of Suspended / Tensile Structures, Membrane Structures, Pneumatic Structures
		CO3	High rise buildings, foundations, structural systems and architectural design considerations
		CO4	Defects in buildings - various types, causes, remedies, prevention
		CO5	Building rehabilitation systems - types, application
		CO6	Construction Chemicals, construction aids-types, usefulness, application
		CO7	Earth Quake resistance Structures various structural systems, structural aspects detailing and implication in Architectural Solutions
		CO8	Effectively incorporate, adopt and apply principles, fundamentals, systems, techniques of constructions, basics of drawings and detailing related to subject of :Designing and Detailing Additions and Alterations in existing buildings
		CO9	To effectively adopt, apply, implement and practice this learning in their current Project (Thesis) work and future post graduate studies
		CO10	Finally leading the students to fully equip themselves, with Professional Competency and Capability to incorporate, detail out, execute the acquired know-how and experience in all their future works as Professional Architects
03	10S-A-3 PROFESSIONAL PRACTICE	CO1	Nature of profession
		CO2	Instructions of Client, its interpretation, design process and its stages
		CO3	Professional society, Professional code of conduct, Ethical ways
		CO4	Architectural competitions, architectural copy right
		CO5	Responsibilities and Liabilities of an architect
		CO6	Scale and basis of fees. Professional charges of various jobs
		CO7	Office, Organisation and Administration., Office set up
		CO8	Correspondence, filing, preparation of drawing, standardization and documentation
		CO9	Professional partnership
		CO10	Provisions of Professional Tax, Service Tax, Income Tax rules.
		CO11	Tender, types of tender, tender document, tender notice, procedure for opening and selection of tender, analysis bids, comparative statement, report to owner, work order
		CO12	Contract, type of contract, contract document
		CO13	Architects Act 1972
		CO14	Building bye-laws, Sale deed procedure, owner ship documents.
CO15	Professionally applying all fundamentals and acquired know-how to help, assist in establishing of their own Professional Architectural Practice (Office) either independently or in partnership		
04	ELECTIVE 10S-AA-1 DESIGN URBAN	CO1	Principles, fundamentals of urban design- its elements and dimensions.
		CO2	Understanding about development and planning and designing components of city
		CO3	Learn and develop urban language
		CO4	Evolve and adopt design concepts, principles, systems, methodologies of city design and their application at city level
		CO5	Use this learning / know-how to represent their designs by adopting and practicing the art, skills and techniques in all their higher studies, in their Project (Thesis) work of 10 th Semester as well
		CO6	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / Designs, of various Buildings as Professional Architects
05	ELECTIVE 10S-AA-1 CAMPUS PLANNING	CO1	Principles of Campus Planning both in context of National and International
		CO2	Practices of past and present
		CO3	Learning of Design tools, principles, criteria, fundamentals and their correlation and contextuality to purpose for which the campus is planned
		CO4	Use this learning / know-how to represent their designs by adopting and practicing the art, skills and techniques in all their higher studies and in their Project (Thesis) work of 10 th Semester as well
		CO5	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ / use this acquired knowledge / know-how in all their future works / Designs, construction work of various Buildings as Professional Architects
06	ELECTIVE 10S-AA-1 HOUSING	CO1	Urban and rural housing , its concepts, needs, demand and supply, its context
		CO2	Development control rules/ byelaws, codes, norms
		CO3	Policies related to housing like slum rehabilitation, Pradhan Mantri Awaas Yojana
		CO4	Role of Government bodies/ organization in Housing and its development.

		CO5	Finally leading the students to fully equip themselves with Professionals Competency and Capabilities to incorporate, detail out, execute the acquired know how in all their future works as Professional Architects.
07	ELECTIVE 10S-AA-1 HIGH TECH ARCHITECTURE	CO1	Hi-tech architecture :- Principles, fundamentals
		CO2	Structural functions, technical aspects
		CO3	Components-materials used, its correlation to Energy efficiency
		CO4	The plug-in pod- A practical strategy, preoccupations with flexibility
		CO5	Demount — ability, image of quality and sophistication, related techniques.
		CO6	Collaboration between Architect and Product Designer
		CO7	Use / employ this learning in all their future studies in their Project (Thesis) work of 10 th Semester as well
		CO8	Finally leading the students to equip themselves, with Professional Competency and Capabilities to employ this acquired knowledge / know-how in all their future works / Designs, construction work of various Buildings as Professional Architects as well to be proponent and practitioner of Hi-tech Architecture in all their future works



I Semester M. Des. (Industrial Design)

SN	Subject Name & Course Code	COS
1	PGID101T History of Design	<p>On completion of the Course the students will be able :- Understand, Achieve, develop - competency, confidence and capability to / about :-</p> <ol style="list-style-type: none"> 1) Know the history of design profession in Europe and America 2) Understand about various isms, trends , styles and its influences on society. 3) know the design pioneers and their philosophy conceived by study of their famous products 4) Know Indian scenario in product design and effect of urbanization and technology on product design
2	PGID102T Materials and Processes	<ol style="list-style-type: none"> 1) Understand the behavior of various metals and non-metals and its application in product design. 2) Learn about the selection of material for different applications 3) Gain knowledge about various natural materials and their use at industrial level 4) Get exposure to the various manufacturing processes and applications.
3	PGID103T Craft, Creativity and Postmodernism	<ol style="list-style-type: none"> 1) Understand the expression of Indian traditional craft work by exploring different materials. 2) Gain knowledge about various creative processes required for craft work which includes utilisation of materials like bamboo, wood, leather, paper etc. 3) know the modern and post modern craft work trends by creatively exploring contemporary materials. 4) Importance of craft design as per urban and export market
4	PGID104P Elective –I (Discipline Specific)	<p>A) Elements of Design</p> <ol style="list-style-type: none"> 1) Understand the principles of design 2) To know about various elements of design 3) To understand 2D and 3D compositions <p>B) Workshop Practice</p> <ol style="list-style-type: none"> 1) Understand various carpentry and metal works 2) Gain experience of hands on jobs based on different equipments 3) Know the fabrication processes <p>C) Design Technology</p> <ol style="list-style-type: none"> 1) Understand the basic functioning of motors and engines 2) Define various technical parameters 3) Define various forms of energy and their parameters 4) Gain basic knowledge about gears and various control governors

5	Elective –II (Open) PGOPEN105T	A) PRODUCT DESIGN AND DEVELOPMENT PROCESS 1. Understand various aspects of product design and development process. 2. Identify and classify various stages involved in the process of product design from market survey to detailed design. 3. Gain knowledge about process of prototyping and performance testing of the product. 4. Be exposed to the legal issues involved in new product development. 5. Understand the rules and regulations involved in trademarks, copyrights, patents and industrial design rights and infringement of the same.
6	PGID106P Studies in Form- I	1) Know elements of form in the context of product design 2) Understand 2 and 3 dimensional form transition 3) Gain knowledge about use of colour as element of design and colour dynamics 4) To establish the relationship between form and colour
7	PGID107P - I Design	1) Understand various factors which are having impact on product design 2) Generate design brief 3) Know various techniques to study user behavior and reactions 4) Document and interpret data obtained 5) Carry out analytical studies in other creative fields.

II Semester M. Des. (Industrial Design)

SN	Subject Name & Course Code	COS
		On completion of the Course the students will be able :- Understand, Achieve, develop - competency, confidence and capability to / about :-
1	PGID201T Product Development	1 Use the Product Design and Development Process, as a means to manage the development of an idea from concept through to production. 2) Gain knowledge about market research understanding market pressure, polimarket research, understanding market pressure, policies, ecology concerns, economic climate, raw material availability. 3) Know about life cycle assessment from con,cept generation, testing, pilot production and related aspects 4) Apply creative process techniques in synthesizing information, problem-solving and critical thinking.
2	PGID202T Product Planning and Marketing	1) Understand corporate and management strategy for product planning , considering the company image and defining companies business 2) Assess company's finance performance, SWOT analysis, etc. 3) Understand strategies for introducing and placing new products 4) See product design as a part of a scheme to develop brand image
3	PGID203T Human Factor Design	1) Understand the importance of ergonomics in the design of new products 2) Learn the effect of anthropometry, physiology, biomechanics, etc. on the design and development of new products 3) Understand the effects of other human factors 4) Gain knowledge about controls and display elements

4	PGID204P Elective –III (Discipline)	<p>A) Presentation Techniques</p> <ol style="list-style-type: none"> 1) Work on pencil drawing, object drawing and model making 2) Understand the use of colours in design 3) Know about perspective drawing 4) Gain knowledge about basic photography <p>B)</p> <p>Web Design</p> <ol style="list-style-type: none"> 1) To know the Basic web concept and Internet protocols 2) To learn about the XHTML Forms, Frames and Tables 3) To learn about CSS. To Study about the DHTML, CGI, ASP, JSP, Java servlets 4) To Study about Java applets, Java Beans <p>C) Game Design</p> <ol style="list-style-type: none"> 1) Understand game design process 2) Gain knowledge about game design as against other design areas 3) Understand ability to learn as criteria for game design 4) Design game hardware and board game and their testing
5	PGFD205T Foundation Course-I	<p>Research Methodology</p> <ol style="list-style-type: none"> 1) Knowledge on various kinds of research questions and research designs 2) Formulate research problems (task) and develop a sufficiently coherent research design 3) Assess the appropriateness of different kinds of research designs 4) Knowledge on qualitative, quantitative and mixed methods of research, as well as relevant ethical and philosophical considerations 5) Develop independent thinking for critically analyzing research reports
6	PGID206P Studies in Form-II	<ol style="list-style-type: none"> 1) Experiment with 3 dimensional form in various materials 2) Understand the principles of beauty 3) Gain knowledge about process of form development 4) Understand theories related to form development
7	PGID207P Design -II	<ol style="list-style-type: none"> 1) Understand various factors which are having impact on product design 2) Generate design brief 3) Know various techniques to study user behavior and reactions 4) Document and interpret data obtained 5) Carry out analytical studies in other creative fields.

III Semester M. Des. (Industrial Design)

SN	Subject Name & Course Code	COS
1	PGOPEN301T Elective- IV (OPEN)	<p>On completion of the Course the students will be able :- Understand, Achieve, develop - competency, confidence and capability to / about :-</p> <p>PRODUCT DESIGN FOR ENERGY AND ENVIRONMENT</p> <ol style="list-style-type: none"> 1) To understand and appreciate the need for energy efficient and environmental friendly products. 2) To gain knowledge about use of new and renewable energy sources for development of new product. 3) To get acquainted with various standards and testing procedures. 4) To identify various barriers involved in commercialization of energy products.

2	PGFD302T Foundation Course-II	ARCHITECTURAL PROJECT PLANNING, & MANAGEMENT 1)Conduct a basic needs assessment for a proposed project 2) Develop a project proposal 3) Develop a logical framework 4) Develop measureable indicators 5) Have ability to insert Monitoring and Evaluation into a project 6) Develop a grant proposal 7) Develop a project budget
3	PGID303P CAD Modeling and Digital Design	1) Get familiarized with the computer graphics and computer hardware 2) Explore various software, their limitations and multimedia 3)Understand interface of software and its parameters and graphic simulation 4)Generate tools for digital design process 5)Gain knowledge about global scenario of digital technology
4	PGID304P Seminar	1) The students will able to carried out research in any area related to project to be carried out in 4th semester.Areas which would encourage diverse research inclinations should be identified, inputs about structuring design briefs,establishing subject matter, generating keywords and key statements. 2)The student shall be evaluated on the ability to carry out research, analysis, synthesis and exploration.
5	PGID305P Design -III	1)Understand various factors which are having impact on product design 2)Generate design brief 3)Know various techniques to study user behavior and reactions 4)Document and interpret data obtained 5)Carry out analytical studies in other creative fields.

IV Semester M. Des. (Industrial Design)

SN	Subject Name & Course Code	COS
		On completion of the Course the students will be able :- Understand, Achieve, develop - competency, confidence and capabilty to / about :-
1	PGID401P Professional Training	1)To have an in-house experience of manufacturing processes. 2)To knowledge about product designing and development drawing.
2	PGID402P Colloquium	1)To strength the student ability to prepare academic assignment, so as to help them in writing master thesis. 2)To develop students knowledge proficiency in presenting theoretical and methodical resources and factual knowledge.
3	PGID403P Dissertation	1) To enable the students to develop deeper knowledge, understanding , capabilities and attitudes in the context of program of study. 2)To offer and opportunities to develop more deeply in to and synthesis knowledge acquired in previous semester emphasis on the technical/scientific/artistic aspects of the subject matter.