Amity School of Architecture & Planning (ASAP)

Bachelor of Architecture

Duration – 5 Years Full Time

Programme Structure,

Curriculum

&

Scheme of Examination

(Effective from 2017-2022 Batch)

PREAMBLE

Amity University aims to achieve academic excellence by providing multi-faceted education to students and encourage them to reach the pinnacle of success. The University has designed a system that would provide rigorous academic and professional programme with necessary skills to enable a student to excel in career.

This booklet contains the Programme Structure, the Detailed Curriculum and the Scheme of Examination. The Programme Structure includes the courses (Core and Elective), arranged semester wise. The importance of each course is defined in terms of credits attached to it. The credit units attached to each course has been further defined in terms of contact hours i.e. Lecture Hours (L), Tutorial Hours (T), Practical Hours (P) and St Studio. Towards earning credits in terms of contact hours, 1 Lecture and 1 Tutorial per week are rated as 1 credit each and 2 Practical hours per week are rated as 1 credit. Thus, for example, an L-T-P/St structure of 3-0-0 will have 3 credits, 3-1-0 will have 4 credits, and 3-1-2 will have 5 credits.

Lecture (L) : Lecture is a one- way mode of transferring information/ concepts/ theory to students, usually delivered by an instructor. To check the understanding of concepts, frequent tests and quizzes are supplemented with lecture.

Tutorial (T) : For completing class assignments, one -to-one practice sessions conducted by and with faculty member(s) are tutorials.

Practical/ Studio (P/S) : Practical / Studios are sessions where students use various mediums and modes to define real life problem(s) and solution(s) for the same, individually or in group.

The Curriculum and Scheme of Examination of each course includes the course objectives, course contents, scheme of examination and the list of text and references. The scheme of examination defines the various components of evaluation and the weightage attached to each component. The different codes used for the components of evaluation and the weightage attached to them are given below. Depending upon the course requirement, the weightage may slightly vary.

Components	Codes	Weightage (%)
Case Discussion/ Presentation/ Analysis	C	05-10
Home Assignment	H	05-10
Project	P	05-10
Seminar	S	05-10
Viva	V	05-10
Quiz	Q	05-10
Class Test	CT	10-15
Attendance	A	05
End Semester Examination	EE	50

The Bachelor of Architecture (B. Arch.) course is a professional course spanning duration of FIVE Years. The course is governed by the guidelines laid by the Council of Architecture modified as up to date. The course structure, scheme of examination and the syllabus was discussed and finalized in the Board of Studies meetings of the ASAP held on time to time to take the necessities of the changing times. The present Course structure was revised in the 6th BOS Held on 20.10.2016 and approved in the 20th Academic Council 19.11. 2016.

The course has an inbuilt component of training. This training component is spread over the duration of the course. Training for a period of ONE semester has been incorporated at the 8th Semester level with the idea that the students could get best advantage of it while preparing the Dissertation and Final project in the 10th semester. The courses of studies have been revised in a manner that the students get best advantage of teaching and training in achieving the goals of profession. This shall also help the evaluators at ASAP to judge the impact of training on the academics.

There are many subjects that are taught right from the First Semester to the Seventh Semester and have varying credits. This continuity shows importance of the subject and the credits assigned reflect importance of the same. For example Architectural Design is the most important aspect of the B Arch Course. This subject has the maximum credits as well as the maximum teaching hours assigned to it with an idea that the students get exposure in handling problems of different complexities. The complexity is least in the first semester where basics and methodologies are introduced. In the coming semesters more and more difficult problems are introduced. The problems of the subsequent semester also involve the use of other subject studied by the student in the same or the previous semester. Similarly the subject Building material and construction shall be taught in a manner that first the simpler building materials shall be introduced to learn their properties and uses and then the processes of their application of using them in construction of spaces shall be introduced. The architectural design and building material and construction are the subjects that go hand in hand. The material one learned shall also be used in design and construction. These activities can be simultaneous as well.

Architectural design is the subject that helps a student in dreaming about a problem. In the initial stages imagination is allowed full freedom. In the initial semesters one could think of any shape which one could dream of and it could really be a fantasy. But with the increasing semesters and with increasing understanding of materials and construction processes the design shall be with limiting factors. The final design or the thesis project is the ultimate design where all aspects of design, construction and services including the impact of working in office of a professional shall be assessed. This shall show how professional project drawings are prepared and how its related report is prepared and submitted. The final project should be done in a way that anybody could understand the project, even in absence of the designer. The final is a kind of full dress rehearsal for joining the profession.

Structural Design and systems is a subject that lets the designer learn as to how he can see his design constructed. Initially the students shall be introduced the basic of the mathematical aspects of calculation of forces and the scientific procedures of giving shape to architectural design. This subject is really very important for ensuring if the fantasy of architectural design could be converted to reality or not. One should remember that though there is nothing impossible as far as the engineering is concerned provided one is ready to bear the cost. Your imagination can be given a realistic shape. One needs only to assess and weigh the importance of cost to the design fantasy. As one advances in this subject, various design trends shall be introduces so that one could adopt advanced structural systems in ones design. This subject though is mathematical and little complicated, need be given due attention as it shall help the designer to be little realistic and economical as well.

Building Services is a subject without which none of the buildings could be functional. These services include the water supply, sanitary and waste management, electrical services, heating, ventilation and air-conditioning (HVAC) services, mechanical services such as lifts escalators etc. Today many advanced services are becoming essential to the buildings and their importance is increasing with the typology and importance of the building. These services would include the security systems, personal management systems and intelligent building management systems. Attempt shall be that the students are exposed to all

possible available systems related to different types of buildings so that depending the type of the building they could be incorporated at the architectural design level.

History is very important to know our own roots. It also helps us to understand the development. 'Architecture is known as mother of all arts'. Once you learn the history of architecture you learn the developmental history of mankind besides other aspect. Realizing importance of the subject, teaching of history has been spread to different semesters. Attempt shall be made to make the student aware of the development of architecture around the world and in our own country to showcase as how we have been able to reach our present stage of development. Students shall learn the materials used in different period, technologies available and how grandeur could be achieved under different socio-economic and administrative conditions.

A large flexibility has been incorporated in the Course Structure through introduction of the CBCS and the student is allowed to select Choice Based Credits from within the School as well as from other schools of the University. If a student learns the same subject in consecutive 3 years he gets a Minor Track Certificate at the end of the studies.

AUR hopes that the students passing out of ASAP shall be fully equipped to face and handle independently the intricacies of architecture and shall efficiently and proficiently help in Nation Building.

PROGARAMME STRUCTURE

FIRST SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 101	Architectural Design - I	CC	1	4		5	5
BAR 102	Materials & Construction Technology – I	CC	1	2		3	3
BAR 103	Structural Design & Systems – I	CC	1	1		2	2
BAR 104	Graphics Skills - I	CC	1	1	2	3	4
BAR 105	History of Architecture – I	CC	1	1		2	2
BAR 106	Workshop	CC	1	2		3	3
BAR 107	Theory of Design	CC	2	1		3	3
BAR 108	Visual Arts & Appreciation	CC	2			2	2
BCS 101	English	VA	1			1	1
BSS 101	Behavioral Science – I	VA	1			1	1
	Foreign Language - I	VA	2			2	2
FLF 101	French						
FLG 101	German						
FLS 101	Spanish						
FLJ 101	Japanese						
FLC 101	Chinese						
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		17	12	2	30	31

Note: Study tour to be conducted during semester break. Marks to be added in even semester after evaluation

SECOND SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 201	Architectural Design – II	CC	1	4		5	5
BAR 202	Materials & Construction Technology – II	CC	1	1	2	3	4
BAR 203	Structural Design and Systems – II	CC	1	1		2	2
BAR 204	Graphics Skills – II	CC	1	1	2	3	4
BAR 205	History of Architecture – II	CC	1	1		2	2
BAR 206	Building Services – I (Water Supply & Sanitation)	CC	1	1		2	2
BAR 207	Study Tour,NASA&other Academic/Professional activities-I (evaluation)	CC				1	
EVS 201	Environment Science	VA	1	1	2	3	4
BCS 201	English	VA	1			1	1
BSS 201	Behavioral Science – II	VA	1			1	1
	Foreign Language - II	VA	2			2	2
FLF 201	French						
FLG 201	German						
FLS 201	Spanish						
FLJ 201	Japanese						
FLC 201	Chinese						
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		14	10	6	28	29

THIRD SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 301	Architectural Design – III	CC	2	4		6	6
BAR 302	Materials & Construction Technology – III	CC	1	1	2	3	4
BAR 303	Structural Design and Systems – III	CC	1	1		2	2
BAR 304	Graphics Skills – III	CC	1	1	2	3	4
BAR 305	History of Architecture – III	CC	1	1		2	2
BAR 306	Building Services - II (Electrical System & Lighting)	CC	1	1		2	2
BAR 307	Surveying & Leveling	CC	1		2	2	3
	Domain Elective – I (Select any One DE)						
BAR 308	Colors	DE					
BAR 309	Vernacular Architecture	DE	1	1		2	2
BAR 310	Adobe Construction	DE					
BCS 301	Communication Skills – I	VA	1			1	1
BSS 301	Behavioral Science – III	VA	1			1	1
	Foreign Language - III						
FLF 301	French						
FLG 301	German	VA	2			2	2
FLS 301	Spanish						

FLJ 301	Japanese						
FLC 301	Chinese						
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		16	10	6	29	32
Note: Study tour to be conducted during semester break. Marks to be added in even semester after evaluation							
FOURTH SEMESTER							

	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
	Architectural Design – IV	CC	2	4		6	6
	Materials & Construction Technology – IV	CC	1	1	2	3	4
BAR 403	Structural Design & Systems – IV	CC	1	1		2	2
BAR 404	Graphics Skills – IV	CC	1	1	2	3	4
BAR 405	History of Architecture – III	CC	1	1		2	2
BAR 406	Building Services – III (Acoustical system)	CC	1	1		2	2
BAR 407	Study Tour ,NASA & other Academic/Professional activities-I (evaluation)	CC				1	0
BAR 408	Architectural Climatology	CC	1	1		2	2
Domain Elective – II (Select any One DE)			1	1		2	2
BAR 409	Bamboo Architecture	DE					
BAR 410	Architecture Documentation	DE					
BAR 411	Barrier free Architecture (Enable Design)	DE					
BCS 401	Communication Skills – II	VA	1			1	1
BSS 401	Behavioral Science – IV	VA	1			1	1
	Foreign Language - IV	VA	2			2	2
FLF 401	French	VA					
FLG 401	German	VA					
FLS 401	Spanish	VA					
FLJ 401	Japanese	VA					
FLC 401	Chinese	VA					
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		16	11	4	30	31

FIFTH SEMESTER

Course Code	Course Title	Category	L/ T/ ST /P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 501	Architectural Design –V	CC	2	6		8	8
BAR 502	Materials & Construction Technology – V	CC	1	1		23	4
BAR 503	Structural Design & Systems – V	CC	1	1		2	2
BAR 504	Graphics Skills – V (Computer aided)	CC	1	1	2	3	4
BAR 505	Building Bye - Laws & Codes Practices	CC	1	1		2	2
BAR 506	Building Services – IV(Fire safety, security and mechanical System)	CC	1	1		2	2
Domain Elective – III (Select any One DE)							0
BAR 507	Building Appreciation	DE	1	1		2	2
BAR 508	Energy Conservation Architecture	DE					
BAR 509	Digital Architecture	DE					
Domain Elective – IV (Select any One DE)							
BAR 510	Intelligent Buildings	DE	1	1		2	2
BAR 511	Vaastu in architecture	DE					
BAR 512	Architecture pedagogy	DE					
BCS 501	Communication Skills – III	VA	1			1	1
BSS 501	Behavioral Science – V	VA	1			1	1
	Foreign Language – V	VA	2			2	2
FLF 501	French						
FLG 501	German						
FLS 501	Spanish						
FLJ 501	Japanese						
FLC 501	Chinese						
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		16	13	4	31	33

Study tour to be conducted during semester break. Marks to be added in even semester after evaluation

SIXTH SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 601	Architectural Design – VI	CC	2	6		8	8
BAR 602	Materials & Construction Technology – VI	CC	1	1	2	3	4
BAR 603	Structural Design & Systems – V (Advance Structural system)	CC	1	2		3	3
BAR 604	Quantity surveying & Specification	CC	1	1		2	2
BAR 605	Landscape Design & Site planning	CC	1	1		2	2
BAR 606	Building Services - V (HVAC system)	CC	1	1		2	2
BAR 607	Study Tour ,NASA & other Academic/ Professional activities-I (evaluation)	CC				1	0
Elective – V (Select any One DE)							
BAR 608	Architectural Conservation	DE					
BAR 609	Modular Construction Technology	DE	1	1		2	2
BAR 610	Architectural Photography	DE					
Elective – VI (Select any One DE)							
BAR 611	Bionic Architecture	DE					
BAR 612	Interior Landscape	DE	1	1		2	2
BAR 613	Design of logo &Signage's	DE					
BCS 601	Communication Skills – IV	VA	1			1	1
BSS 601	Behavioral Science – VI	VA	1			1	1
	Foreign Language -VI						
FLF 601	French						
FLG 601	German	VA	2			2	2
FLS 601	Spanish						
FLJ 601	Japanese						
FLC 601	Chinese						
	Open elective//Minor track	OE/MT	3			3	3
	TOTAL		16	14	2	32	32

SEVENTH SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 701	Architectural Design – VII	CC	2	8	4	12	14
BAR 702	Materials & Construction Technology – VII (Working Drawing)	CC	1	1	2	3	4
BAR 703	Construction & Project Management	CC	1	2		3	3
BAR704	Town Planning	CC	1	1		2	2
Domain Elective – VII (Select any One DE)							
BAR 705	Light and Architecture	DE					
BAR 706	Intelligent Interiors	DE	1	1	-	2	2
BAR 707	Disaster Resistant Architecture	DE					
Domain Elective – VIII (Select any One DE)							
BAR 708	Tensile Construction	DE					
BAR 709	Interior Design	DE	1	1	-	2	2
BAR 710	Set design	DE					
BCS 701	Communication Skills – IV	VA	1			1	1
BSS 701	Behavioral Science – VI	VA	1			1	1
	Foreign Language -VI						
FLF 701	French						
FLG 701	German	VA	2			2	2
FLS 701	Spanish						
FLJ 701	Japanese						
FLC 701	Chinese						
	TOTAL		11	14	6	28	31

EIGHTH SEMESTER

Course Code	Course Title	Category	L Per Week	T Per Week	P/ST Per Week	Credits	Teaching hours
BAR 801	Practical Training					25	0

Practical Training will be conducted during Eighth semester. Evaluation will be done before registration in Ninth semester.

NINTH SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 901	Architectural Design – VIII (Urban Design)	CC	2	8	8	14	18
BAR 902	Materials & Construction Technology – VIII (Advanced Building Construction)	CC	2	2		4	4
BAR 903	Housing	CC	1	1		2	2
BAR 904	Dissertation	CC		1	2	2	3
Domain Elective – IX (Select any One DE)							
BAR 905	Product design	DE					
BAR 906	Cost Effective Architecture	DE	1	1	-	2	2
BAR 907	Prefabrication	DE					
	TOTAL		6	13	10	24	29

TENTH SEMESTER

Course Code	Course Title	Category	L/T/ST/P Per Week			Credits	Teaching hours
			L	T/ST	P		
BAR 1001	Project (Thesis)	CC	4	8	12	18	24
BAR 1002	Professional Practice & Management	CC	1	1		2	2
Domain Elective – IX (Select any One DE)							0
BAR 1003	Architectural Journalism	DE					
BAR 1004	Building Economics & Legislation	DE	1	1		2	2
BAR 1005	Virtual Architecture	DE					
	TOTAL		6	10	12	22	28

FIRST SEMESTER

BAR 101 ARCHITECTURAL DESIGN - I

Course Code: BAR 101 **Credit Units: 05** **Teaching hours: 05**

Course Objective:

Orientation of students to the design of Architectural spaces. Introduction to the fundamentals of basic design and understanding of forms and spaces in architecture. Student shall understand space division composition and aesthetics of composition in 2D/3D design.

Course Contents:

Module I: Composition of simple 2D form

Introduction to simple Architectural spaces in 2D, Composition of simple 2D spaces, rectangle square circle triangular pentagon hexagon etc.

Module II: Composition of simple 3D form

Simple Architectural spaces in 3D, Composition of simple 3D spaces,

Cube cylinder sphere prism frustum cone etc.

Module III: Transformations of 2D to 3D

Transformations of 2D to 3D- space, Scale and Proportions of space. Positive and Negative spaces, Additive and Subtractive spaces

Module IV: Transformations of 3D to 2D

Basics of architectural plan, section and elevation

Module V: Anthropometry and ergonomics

Anthropometrical consideration of space, understanding of human units

and requirements Module VI Design Exercise

Design single unit cell for a single person with using concepts of Symmetry, Asymmetry, extension of lines, Rhythm, Balance and Harmony, anthropometry considerations and study the interior spaces by making 3-D views (axonometric and isometric). This exercise will include areas like living area, sleeping area, washroom, cooking area with furniture layout in 2-D /3D drawings.

Exercises

Cabin design, entrance gate, bus stop, kiosks, exhibition space, stalls, children play area, small interior spaces, etc. The final submission shall necessarily include a model for at least one of the two main problems.

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Text & References:

Text:

A Pattern Language, Alexander Christopher

Structure in Architecture, Heller Robert and Salvadori Mario

Design Fundamental in Architecture, Walter Gropius

Pattern of Nature, Peter Streens

Elements of Architecture, Meiss Pieree Von

Architecture: Form, Space and Order, Francis

D.K. Ching References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather

Architectural Graphic standards editor, Boaz Joseph

Planning – the Architect's handbook, E

and E.O. Neufert's Architect's data

Time Saver standards for building types, editor Joseph D.C. and John Calendar.

BAR 102 MATERIALS AND CONSTRUCTION TECHNOLOGY - I

Course Code: BAR 102 Credit Units: 03 Teaching hours: 03

Course Objective:

To understand the use of traditional building materials in simple building works.

To familiarize students with basic building elements, their function and behavior under various conditions with specific reference to "Load Bearing Construction"

Course Contents:

Module I: Building Materials and Construction Technology

Introduction to elements of building from foundation to roof, Introduction to various methods, technology, materials, tools and equipment commonly used in – Excavation, Masonry works and carpentry.

Module II: Clay and Clay products, Stone, Lime

Mud including stabilized earth, burnt bricks, brick tiles, blocks, lime and its product, stone and its varieties etc, Classification, availability, preparation and uses of above materials and their structural, visual and textural properties.

Module III: Brick Work: Terminology: Bricks, bats and closures.

Bonding: Types of bonds: English, Single, double, Flemish and red trap bond.

Corbelling, String courses and decorative brickwork.

Stonework: Stone masonry, dressing, Random Rubble, Coursed Rubble, Ashlar.

Module IV: stone and brick masonry Foundation

Foundations: Need for foundations, its preliminary design criteria. Detail of spread foundation for load bearing walls of various thicknesses. Module V: Openings

Openings – Types and construction details of Lintels, arches, sill, jam.

Doors and windows – joinery and fixing details of simple timber doors and windows.

Module VI: Elements of building

Foundation, plinth, plinth beam ,damp proof course (D,P.C.) ,sill, lintel ,beam and slab, parapet, mumty etc.

Detailed Section through 2 story building.

Exercises: preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

1. **Building construction W.B.McKay**
2. **Building construction R Berry**
3. **Building construction Chudley**
4. **Building construction Francis D.K. Ching.**

BAR 103 STRUCTURAL DESIGN AND SYSTEMS - I

Course Code: BAR 103 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To introduce the structural system in a building with all the basic components to understand the functions of various elements and building technologies used in various types of buildings.

Course Contents:

Module I: Simple Stresses and Strains

Elasticity, Stress, Strain, Types of Stresses, Elastic limit, Hook's Law ,Modulus of Elasticity, Stresses in Composite Bars. Poison's ratio, shear stress, Basic, Deformation of a body due to self-weight & force acting on.

Module II: Principal stresses and strains

Introduction, principal planes & their stresses, Analytical methods for the stresses on an oblique section of a body, stresses on an oblique section of a body subjected to a direct stress in one plane & two mutually perpendicular directions.

Module III: Centre of gravity

Introduction, Centroid, methods for Centre of gravity, Centre of gravity by geometrical & moments consideration, axis of reference, Centre of gravity of plane figures, symmetrical & unsymmetrical sections.

Module IV: Moment of inertia

Definition, Important theorems, section Modulus, Calculation of M.I by Integration method and its application to architecture system

Module V: Elements of Static

Law of parallelogram of forces, resolution of a forces, law of triangular of forces, polygon of forces, Theorem of resolved parts resultant of number of concurrent coplanar forces, conditions of equilibrium, moment of a forces. Moment and arm of a couple, theorems on couples

Module VI: Reactions in beams

Various types of support & loads in Beams, Calculation of reactions in loaded beams , Cantilever & simply supported, Point load , UDL & UVL.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Strength of Materials, Khurmi R. S.

Engineering Mechanics By R.K. Bansal.

Applied Mechanics and Strength of Materials, Khurmi R. S. Structure in Architecture, Salvadori and Heller

References:

Elements of Structure, Morgan

Structures in Architecture, Salvadori

Structure and Fabric, Everet

BAR 104 GRAPHIC SKILLS - I

Course Code:BAR 104 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To familiarize the students with various drawing tools to give basic knowledge of drafting and lettering techniques. To provide a clear understanding about the scale of measurement and orthographic projections used as drawing technique.

Course Contents:

Module I: Introduction to basics drafting, Lettering & Scales

Introduction and setting to the drawing equipment, Concept of line, its types, Line thickness quality, grade, divisions and angles, Concept of polygons, circles, geometrical curves, helix etc., Concept of Dimensioning & dimension line, BIS codes of drawings.

Free hand and Architectural lettering, proportion of letter size as per scale and size of the sheet.Scales: Engineers scale, Graphical scale and Representation factor (R.F).Scales on drawings. Types of scales: Plain scale and Diagonal scale.

Module II: Projection- Line

Definition, meaning and concept, Principles and Methods of projection.Projection of point & line.

Module III: Projection-Plane

Projection of planes and surfaces in different positions and angles with varying situations.

Module IV: Projection-Solid

Projections of regular rectilinear and circular solids (prisms, pyramids, cones, cylinders, spheres etc.) in different positions. Sections of regular rectilinear and circular solids in varying conditions of sectional plane. Module V: 3D Drawing

Types, uses & advantage. Isometric, Axonometric & oblique view -solids, compositions& buildings.Metric drawings, projections and their dimensions.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Architectural Graphics, C. Leslie Martin

Architectural Graphics, Ching Frank

Engineering Drawing, N.D. Bhatt

References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather

Architectural Graphic standards editor, Boaz Joseph

Neufert's Architect's data

Time Saver standards for building types, Editor Joseph D.C. and John Callender. Rendering with pen and ink

Practical Plane and Solid Geometry, H.Joseph and Morris

BAR 105 HISTORY OF ARCHITECTURE– I

Course Code: BAR 105 **Credit Units:** 02 **Teaching hours:** 02

Course Objective:

Introduction to pre- Historic Architectural elements, forms, development trends, characteristics of construction techniques and technologies.The Evolution of architecture and Growth with increasing timeline.

Familiarize with the socio–economic, historical, political influences of time period in Architectural development. Identify the buildings and the major works of the period.

Course Contents:

Module I: Introduction to History of Architecture

History of Civilizations, Pre-Historic Period till 3000B.C. - The type of Architectural development during the period taking few building examples of the different periods – Neolithic, Mesolithic, Bronze age, Iron Age. Module II: Nile Valley Civilization (3000 B.C. – 100 A.D.)

Introduction to Egyptian Architecture and civilization, Architectural characteristics and developments over the period in respect of Buildings, Tomb Architecture- Mastabas, Pyramids and Art form built in the period explain with examples of the buildings, construction technology, building materials used, evolution of form and development with significant changes over the time period.

Module III: Mesopotamian Civilization (2500 B.C. – 600 B.C.)

Mesopotamian Civilization, Babylonian, Assyrian, Architectural characteristics and developments over the period in respect of Buildings, art form built in the period – explain with examples of the buildings, construction technology, building materials used, evolution of form and development with significant changes over the time period.

Module IV: Chinese Civilization: Yellow River Basin (1700 B.C. – 221BC)

re- history of china, the early civilization of china: Xian Dynasty (c. 2100 – c. 1600 BC)

Shang Dynasty (c. 1700–1046 BC) Zhou Dynasty (1046–256 BC) spring and Autumn Period (722–476 BC) Warring States Period (476–221 BC),

Module V: Chinese & Japanese Civilization: Yellow River Basin (221 B.C. – PRESENT ERA)

Imperial China, Modern China- explain with examples of the buildings, construction technology, building materials used, evolution of form and development with significant changes over the time period.

Module VI :Greek Architecture

Evolution and Development, Classical orders and constituent elements of architecture- Column orders and the articulation of temples.Classification of temples, Geometry and symmetry of individual buildings and their relationship with others based on different organizing principles and conditions of site. Study of importance-Acropolis, Agora, Temples, Theatres, Tombs and House forms

Detailed Presentation exercise may be combined with local educational tour, recommended by the subject teacher to be organized at the end of the semester after the examinations

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

- "Landscape of Man" of Goeffrey and Susan Jellicoe
- "Understanding Architecture, Its elements, history and meaning" by Leland & M. Roth
- "Concepts of space in Traditional Indian Architecture" by Yatin Pandya
- "The History of Architecture" by Sir Bannister Fletcher
- "Buddist and Hindu Architecture" in India by Satish Grover
- "Coexisting Contemporary Civilizations: Arabo-Muslim, Bharati, Chinese, and Western by Ankerl, G. C.

References:

- History of Architecture – J E Swain
- History of Architecture by Dora Couch
- A study of History – Almond Toynbee
- Traditions in Architecture – Dora Couch
- A history of China - Wolfram Eberhard

BAR 106 WORKSHOP

Course Code: BAR 106 **Credit Units:** 03 **Teaching hours:** 03

Course Objective:

To introduce various fabrication skill and techniques to produce scale –models and to encourage preparation of models as an essential phase in design development and evaluation.

Course Contents:

Module I: Introduction to model-making

Need, role of scale models in design, general practices

Essentials of model-making, understanding of various tools And machines employed, best practices involved in operating the tools and the techniques.

Module II: Materials for model-making

Introduction of various materials available for model making such as papers, mount boards, mount sheets, wood, plastics,films,plaster of Paris, acrylic sheets ,metal,glass,FRP etc.

Potential of these materials, in model-making.

Module III: Techniques of scale-modeling

Use of different scale, templates, measuring aids, conventions followed.

Techniques for preparation of presentation models, mock-ups, simulation of various materials and textures such as wood ,glass,aluminum,steel,bricks,roofing tiles,flooring,etc.

Models with soft materials like; clay, plaster of Paris etc.

Models of shells & membrane structures by use of canvas

molding cloth Module IV: Carpentry

Introduction to carpenter's tools, Wood working machines, use of different kinds of wood, Sawing, Planning and Shaping of wood, Making of selected joinery used in construction work, polishing of wood.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Architectural Models: Construction Techniques – Wolfgang Knoll, Martin Hechinge

Model-Making: Materials and Methods – David Neat

Carpentry and joinery – Sir Banister Fletcher, Herbert Phillips Fletcher

The aesthetic experience –magnet Jacque

Form, Space & Order – D.K Ching.

Object by Architects – tapert,Annette,swid

powell Art Forms – Preble,duame

BAR 107 THEORY OF DESIGN

Course Code: BAR 107 **Credit Units: 03** **Teachinghours: 03 Hours**

Course Objective:

Understanding the need of the subject.Philosophical developments in design.Understanding the need of concept and theme and its application.Understanding the Need, demand and supply in different periods by various great designers.

Course Contents:

Module I: Theory

Discuss the evolution and development in design process from past to present. Discuss the principles and Elements of design followed in buildings in past and how the trend changed over the period as per demand. Ideology of Vitruvius.Ten books of Vitruvius. The notion of Form follows Function and Function follows Forms and its theoretical ideology.

Module II: Critical Intellect

Theoretical influence and context of designing of the past. Design ideology and patent techniques.

Study of Basic Elements and Principles of Design. Understanding of Site Selection, Circulation and Orientation study as per Building Design. Basic Steps taken into consideration for Designing of a Building.

Module III: Modern Architecture

Belief in creation of "new" and "ideal" world through the fundamentals of true and original. Origin of geometry, nature, simplicity, abstraction, non-objective, construction and technology available at that times. Equating technology and progress with present functionalism and appropriateness.

Works of great masters – Frank Lloyd Wright, Le-Cobusier, Alvar Alto, Mies Vender, Louis Kahn, Louis Sullivan, Edwin Lutyen etc.

Module IV: Great Masters of the period

Compare the buildings of past with the present and study the technological, form, shape, design, planning and construction material etc. from earlier days to present day.

Works of the great masters of the period in India i.e.- Charles Chorrea, B.V. Doshi, Raj Rewal, Achyut Knvinde, Hafeez Contractor etc.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

"Glimpses of World History" by Pt. Jwahar Lal Nehru "Ubrban Pattern" by A.B. Gallion "The History of Architecture" by Sir Bannister Fletcher Modern Architecture by Curtis W.J.
The History of Architecture by Tadgel C.

References:
History of Architecture – J E Swain

History of Architecture by Dora Couch
A study of History – Almond Toynbee
Traditions in Architecture – Dora Couch

BAR 108 VISUAL ARTS AND APPRECIATION

Course Code: BAR 108 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

The course will enable the students to develop an understanding of the elements of art; a basic vocabulary for describing visual art, a general understanding of the role art has played throughout history, and contemporary trends.

Course Contents:

Module I: The Language of Visual Experience

Visual elements, Principles of design, evaluating art and its purpose in simple

exercise of sketching . Module II: Art as Cultural Heritage

From the earliest art to the Bronze Age, The Classical and Medieval West, Renaissance and Baroque Europe, Traditional arts of Asia, the Islamic world and eastern world.Sketches of buildings from history.

Module III: The Modern World&The Postmodern World

Late Eighteenth and Nineteenth Centuries, Early Twentieth Century, Modern art

Movements Postmodernity and Global Art .Sketches , painting based on history

Module IV: Art Factors Influencing Architecture

Various art factors influencing the architecture, Study can be made by taking a particular region, preferably India. Evolution of shelter forms in regions of the world and examples of Vernacular Architecture in the world, with particular reference to India.

Module V: Rendering in different mediums

Application of painting techniques –water/oil, pen & ink, pencil in preparation of Exterior & interior Views

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Lazzari, Margaret and Donna Schlesier. Exploring Art 2nd Edition Clark Baxter, Belmont, CA, 2005. Responding to Art: Form, Content, & Context by Robert Bersson. Space, Time and Architecture: The Growth of a New Tradition, Fifth Revised and Enlarged Edition (The Charles Eliot Norton Lectures) by Sigfried Giedion.

A Pattern Language, by Christopher Alexander.

Atlas of Western Art History: Artists, Sites and Movements from Ancient Greece to the Modern Age by John Steer and Antony White

Postmodernism (Movements in Modern Art) by Eleanor Heartney Elements of Architecture, Meiss Pieree Von

BCS 101ENGLISH

Course Code: BCS101 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

The course is intended to give a foundation of English Language. The literary texts are indented to help students to inculcate creative & aesthetic sensitivity and critical faculty through comprehension, appreciation and analysis of the prescribed literary texts. It will also help them to respond form different perspectives.

Course Contents:

Module I: Vocabulary	**Use of Dictionary** **Use of Words: Diminutives, Homonyms &**
Module II: Essentials of Grammar - I	**Homophones Articles** **Parts of Speech** **Tenses**
Module III: Essentials of Grammar - II	**Sentence Structure** **Subject -Verb agreement** **Punctuation**
Module IV: Communication	**The process and importance** **Principles & benefits of Effective Communication**
Module V: Spoken English Communication	**Speech Drills** **Pronunciation and accent** **Stress and Intonation**
Module VI: Communication Skills-I	**Developing listening skills** **Developing speaking skills**
Module VII: Communication Skills-II	**Developing Reading Skills** **Developing writing Skills** **Module VIII: Written English communication Progression of Thought/ideas Structure of Paragraph** **Structure of Essays**
Module IX: Short Stories	**Of Studies, by Francis Bacon** **Dream Children, by Charles Lamb** **The Necklace, by Guy de Maupassant** **A Shadow, by R.K.Narayan** **Glory at Twilight, Bhabani Bhattacharya**
Module X: Poems	**All the Worlds a Stage** — **Shakespeare** **To Autumn** — **Keats** **O! Captain, My Captain.** — **Walt Whitman** **Where the Mind is Without Fear** — **Rabindranath Tagore** **Psalm of Life** — **H.W. Longfellow**

Examination Scheme:

Components	A	CT	HA	EE
Weightage (%)	05	15	10	70

Text & References:

Madhulika Jha, Echoes, Orient Long Man

Ramon & Prakash, Business Communication, Oxford.

Sydney Greenbaum Oxford English Grammar, Oxford.

Successful Communications, Malra Treece (Allyn and Bacon)

Effective Technical Communication, M. Ashraf Rizvi.

*** 30 hrs Programme to be continued for Full year**

BSS 101 BEHAVIOURAL SCIENCE – I(Understanding Self for Effectiveness)

Course Code: BSS 101 **Credit Units: 01** **Teaching hours : 1**

Course Objective:

This course aims at imparting an understanding of:

Understanding self & process of self-exploration

Learning strategies for development of a healthy self esteem

Importance of attitudes and its effective on personality

Building Emotional Competency

Course Contents:

Module I: Self: Core Competency	**Understanding of Self Components of Self – Self identity Self-concept Self confidence Self-image**
Module II: Techniques of Self Awareness	**Exploration through Johari Window Mapping the key characteristics of self Framing a charter for self Stages – self-awareness, self-acceptance and**
Module III: Self Esteem & Effectiveness	**self-realization Meaning Importance Components of self esteem High and low self esteem Measuring your self esteem**
Module IV: Building Positive	**Attitude Meaning and nature of attitude Components and Types of attitude Importance and relevance of attitude**
Module V: Building Emotional Competence	**Emotional Intelligence – Meaning, components, Importance and Relevance Positive and negative emotions Healthy and Unhealthy expression of**
Module VI: End-of-Semester Appraisal	**emotions Viva based on personal journal Assessment of Behavioral change as a result of training Exit Level Rating by Self and Observer**

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)	VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25

Text & References:

Organizational Behaviour, Davis, K.

Hoover, Judhith D. Effective Small Group and Team Communication, 2002,Harcourt College Publishers Dick, Mc Cann & Margerison, Charles: Team Management, 1992 Edition, viva books

Bates, A. P. and Julian, J.: Sociology - Understanding Social Behaviour

Dressler, David and Cans, Donald: The Study of Human Interaction Lapiere, Richard. T – Social Change

Lindzey, G. and Borgatta, E: Sociometric Measurement in the Handbook of Social Psychology, Addison – Welsley, US.

Rose, G.: Oxford Textbook of Public Health, Vol.4, 1985.

LaFasto and Larson: When Teams Work Best, 2001, Response Books (Sage), New Delhi

J William Pfeiffer (ed.) Theories and Models in Applied Behavioural Science, Vol 2, Group (1996); Pfeiffer & Company

Smither Robert D.; The Psychology of Work and Human Performance, 1994, Harper Collins College Publishers

FOREIGN LANGUAGE 101

FLF 101 FRENCH - I

Course Code: FLF 101 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

To familiarize the students with the French language

with the phonetic
system with the syntax
with the manners
with the cultural aspects

Course Contents:

Module A: pp. 01 to 37: Unités 1, 2, Unité 3 Objectif 1, 2

Only grammar of Unité 3: objectif 3, 4 and 5

Contenu lexical :Unité 1 : Découvrir la langue française : (oral et écrit)

1. **se présenter, présenter quelqu'un, faire la connaissance des autres, formules de politesse, rencontres**
2. **dire/interroger si on comprend**
3. **Nommer les choses**

Unité 2 : Faire connaissance

1. **donner/demander des informations sur une personne, premiers contacts, exprimer ses goûts et ses préférences**
2. **Parler de soi: parler du travail, de ses activités, de son pays, de sa ville.**

Unité 3 :Organiser son temps

1. **dire la date et l'heure**

Contenu grammatical :

1. **organisation générale de la grammaire**
2. **article indéfini, défini, contracté**
3. **nom, adjectif, masculin, féminin, singulier et pluriel**
4. **négation avec « de », "moi aussi", "moi non plus"**
5. **interrogation : Inversion, est-ce que, qui, que, quoi, qu'est-ce que, où, quand, comment, quel(s), quelle(s) Interro-négatif : réponses : oui, si, non**
6. **pronom tonique/disjoint- pour insister après une préposition**
7. **futur proche**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre: Campus: Tome 1

FLG 101GERMAN - I

Course Code: FLG 101 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany

Course Contents:

Module I: Introduction	**Self introduction: heissen, kommen, wohnwn, lernen, arbeiten, trinken, etc. All personal pronouns in relation to the verbs taught so far. Greetings: Guten Morgen!, Guten Tag!, Guten Abend!, Gute Nacht!, Danke sehr!, Danke!, Vielen Dank!, (es tut mir Leid!), Hallo, wie geht's?: Danke gut!, sehr gut!, prima!, ausgezeichnet!, Es geht!, nicht so gut!, so la la!, miserabel!**
Module II: Interviewspiel	**To assimilate the vocabulary learnt so far and to apply the words and phrases in short dialogues in an interview – game for self-introduction.**
Module III: Phonetics	**Sound system of the language with special stress on Diphthongs**
Module IV: Countries, nationalities and their languages	**To make the students acquainted with the most widely used country names, their nationalitie and the language spoken in that country.**
Module V: Articles	**The definite and indefinite articles in masculine, feminine and neuter gender. All Vegetables, Fruits, Animals, Furniture, Eatables, modes of Transport**
Module VI: Professions	**To acquaint the students with professions in both the genders with the help of the verb "sein".**
Module VII: Pronouns	**Simple possessive pronouns, the use of my, your, etc. The family members, family Tree with the help of the verb "to have"**
Module VIII: Colours	**All the color and color related vocabulary – colored, colorful, colorless, pale, light, dark, etc.**
Module IX: Numbers and calculations – verb "kosten"	**The counting, plural structures and simple calculation like addition, subtraction, multiplication and division to test the knowledge of numbers. "Wie viel kostet das?"**
Module X: Revision list of Question pronouns	**W – Questions like who, what, where, when, which, how, how many, how much, etc.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch

Hans-Heinrich Wangler, Sprachkurs Deutsch

Schulz Griesbach, Deutsche Sprachlehre für Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3

Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2

Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 101SPANISH – I

Course Code: FLS 101 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

To enable students acquire the relevance of the Spanish language in today's global context, how to greet each other. How to present / introduce each other using basic verbs and vocabulary

Course Contents:

Module I

A brief history of Spain, Latin America, the language, the culture…and the relevance of Spanish language in today's global context.

Introduction to alphabets

Module II

Introduction to 'Saludos' (How to greet each other.How to present / introduce each other).

Goodbyes (despedidas)

The verb llamarse and practice of it.

Module III

Concept of Gender and Number

Months of the years, days of the week, seasons. Introduction to numbers 1-100, Colors, Revision of numbers and introduction to ordinal numbers.

Module IV

Introduction to SER and ESTAR (both of which mean To Be).Revision of 'Saludos' and 'Llamarse'. Some adjectives, nationalities, professions, physical/geographical location, the fact that spanish adjectives have to agree with gender and number of their nouns. Exercises highlighting usage of Ser and Estar.

Module V

Time, demonstrative pronoun (Este/esta, Aquel/aquella etc)

Module VI

Introduction to some key AR /ER/IR ending regular verbs.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Español, En Directo I A

Español Sin Fronteras

FLJ 101JAPANESE - I

Course Code: FLJ 101 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

To enable the students to learn the basic rules of grammar and Japanese language to be used in daily life that will later help them to strengthen their language.

Course Contents:

Module I: Salutations

Self-introduction, Asking and answering to small general questions

Module II: Cardinal Numbers

Numerals, Expression of time and period, Days, months

Module III: Tenses

Present Tense, Future tense

Module IV: Prépositions

Particles, possession, Forming questions

Module V: Démonstratives

Interrogatives, pronoun and adjectives

Module VI: Description

Common phrases, Adjectives to describe a person

Module VII: Schedule

Time Table, everyday routine etc.

Module VIII: Outings

Going to see a movie, party, friend's house etc.

Learning Outcome

Students can speak the basic language describing above mentioned topics Methods of Private study /Self help

Handouts, audio-aids, and self-do assignments and role-plays will support classroom teaching

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Text:
Teach yourself Japanese

References:
Shin Nihongo no kiso 1

FLC 101CHINESE – I

Course Code: FLC 101 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

There are many dialects spoken in China, but the language which will help you through wherever you go is Mandarin, or Putonghua, as it is called in Chinese. The most widely spoken forms of Chinese are Mandarin, Cantonese, Gan, Hakka, Min, Wu and Xiang. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I	**Show pictures, dialogue and retell.** **Getting to know each other.** **Practicing chart with Initials and Finals. (CHART – The Chinese Phonetic Alphabet Called "Hanyu Pinyin" in Mandarin Chinese.)** **Practicing of Tones as it is a tonal language.** **Changes in 3rd tone and Neutral Tone.**
Module II	**Greetings** **Let me Introduce** **The modal particle "ne".** **Use of Please 'qing" – sit, have tea …….. etc.** **A brief self-introduction – Ni hao ma?** **Zaijian! Use of "bu" negative.**
Module III	**Attributives showing possession** **How is your Health? Thank you** **Where are you from?** **A few Professions like – Engineer, Businessman, Doctor,** **Teacher, Worker. Are you busy with your work?** **May I know your name?**
Module IV	**Use of "How many" – People in your** **family? Use of "zhe" and "na".** **Use of interrogative particle "shenme", "shui", "ma"** **and "nar". How to make interrogative sentences** **ending with "ma". Structural particle "de".** **Use of "Nin" when and where to use and with whom. Use of** **guixing. Use of verb "zuo" and how to make sentences with it.**
Module V	**Family structure and** **Relations. Use of "you" –** **"mei you". Measure words** **Days and Weekdays.** **Numbers.** **Maps, different languages and Countries.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

"Elementary Chinese Reader Part I" Lesson 1-10

SECOND SEMESTER

BAR 201ARCHITECTURAL DESIGN – II

Course Code: BAR 201 **Credit Units: 05** **Teaching hours : 5**

Course Objective:

To impart ability to design simple functional spaces by application of design principles learned in previous semester and to correlated with human.

Study of functional spaces and the issues like clearances, lighting and ventilation, using the anthropometric study approach; working out of Minimum and optimum areas for various functions;Detailed study of spaces such as living, dining, bedrooms, kitchen, toilet, etc.

Study of the human considerations like, privacy, convenience, comfort, etc.; Case Study of an existing house through measured drawing and making plans/elevations/sections and critical appraisal of the spaces.

Introduction to design process. Pre- Design Studies: Preparation of design brief, the user requirement and their implications, Study of the site and the context; Design Response: Development of concept, Graphic tools like circulation diagrams, 2D compositions, Figure Ground studies, etc.

Module IV: Building Forms (Semi and fully built structures)

Study of creative composition, innovative design approaches & materials to enhance the imaginative spirit of Students.Basic building forms have to be studied through drawings, sketches and model.

The suggested design exercise - bus shelter, milk booth, entrance gate, watchman's cabin, traffic police kiosk, flower stall, ATM Centre, small Cafeteria Village Post Office etc. emphasis shall be on the composition, aesthetics and innovation.

At least two major exercises and two minor design/time problems should be given. The final submission shall necessarily include a model for at least one of the two main problems.

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Petrol filling stations: construction and operation, HMSO,
1990 Design Fundamental in Architecture, Walter Gropius
Pattern of Nature, Peter Streens
Elements of Architecture, Meiss Pieree Von
Architecture: Form, Space and Order, Francis D.K. Ching
Road Form and Transport, J. Mccluskey, Architectural Press, 1979.

References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather
Architectural Graphic standards editor, Boaz Joseph
Planning – the Architect's handbook, E
and E.O. Neufert's Architect's data
Time Saver standards for building types, editor Joseph D.C. and John Callender.

BAR 202MATERIALS AND CONSTRUCTION TECHNOLOGY - II

Course Code: BAR 202 **Credit Units: 03** **Teaching hours: 4**

Course Objective:
To acquaint the students about Timberas a building materials and to familiarize them with construction techniques for use of the above materials in building works.

Course Contents:

Module I: Timber

Classification, Characteristics, Defects and Preservation.

Module II: Timber Doors

Timber Joinery, Types, Classification and Usage.

Doors: Ledged, Braced, Battered door, flush, paneled, single and double shutter doors of various types and sizes.

Module III: Timber Windows

Types, classification and construction details

Fully glazed, fixed glass, timber louvered, bay & casement window detail, ventilators details.

Module IV: Different type of Timber products:

Soft board, hard board, ply, straw board, MDF board, saw dust, block and fine board etc.

Their manufacturing, advantages and disadvantages, market terminology, Sizes available and prices, availability and use with all the details. Report, samples, catalogs to be compiled from market survey.

Module V: Wooden Staircases & trusses

Different type of Staircases & trusses and their terminology and construction detail.

Exercises: Preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Building construction W.B.McKay
Building construction R Berry
Building construction Chudley
Building construction Francis D.K. Ching

BAR 203 STRUCTURAL DESIGN AND SYSTEMS - II

Course Code: BAR 203 **Credit Units: 02** **Teaching hours : 2**

Course Objective:

To understand the application of basic structural system into modified system of structure. To help the students for understand the basic principles of structural behavior and requirements of buildings with emphasis laid on the principles of various load& stresses distribution in beams and columns.

Course Contents:

Module I: Stresses in Beams:-

Theory of simple bending- neutral layer, bending stresses in beams, Bending equation, Definitions,

Distribution of shear stress in section of a beam – rectangular, semi- circular, T and I sections.

Module II Analysis of Trusses:-

Introduction, forces in members, analytical methods, Method of joint & sections, graphical method, link polygon in trusses

Module III: Direct and Bending stresses:-

Introduction, eccentric loading, columns with eccentric loading, symmetrical columns with eccentric loading about one & two axis.

Module IV: Deflection of Beams:-

Introduction, Curvature of the bending beam, relation between slope, deflection & radius of curvature, methods for slope & deflection at a section, simply supported beam with a central, eccentric, UDL, UVL, Macaulay's method for slope & deflection.

Module V: Columns & Struts:-

Definition,Euler's Theory of long columns, Assumptions in the Euler's column theory Columns with end conditions, slenderness ratio, Limitations of Euler's formulae, IS Codes for columns

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Strength of Materials, Khurmi R. S.

Engineering mechanics by R.K. Bansal.

Applied Mechanics and Strength of Materials, Khurmi

R.S. Structure in Architecture, Salvadori and Heller

References:

Elements of Structure, Morgan

Structures in Architecture, Salvadori

Structure and Fabric, Everet

BAR 204 GRAPHIC SKILLS - II

Course Code: BAR 204 **Credit Units: 03** **Teaching hours: 4**

Course Objective:

To familiarize students the architectural drawing of solids, penetration of solids, drawing of shades, Sciography and surface development. To learn the technique of architectural rendering & graphic skills required for effective presentation. The process shall help students in learning the drawings of simple to complex objects.

Course Contents:

Module I: Penetration of Solids

Drawing of different solids in different positions, Cutting and interpenetration of different solids in different position.

Module II: Development of Surfaces

Introduction and Methods of development of surfaces. Development of lateral surfaces of right solids like Cubes, Prisms, Cylinders, Pyramid, Cone etc.

Module III: Sciography

Values in shades and shadows. Constructing plan shadows (point, line and plane), Constructing shadows in elevations (Point, line and Plane). Short- cut methods for constructing shadows.

Module IV: Perspective Drawing

Importance and use of different perspective in architecture. Differences with Metric projections, Anatomy of a perspective-cone of vision, station Points, picture plane, eye level, horizon line, ground line, vanishing point, etc. One point, Two point & three point Perspective.-simple form to building forms. Faster ways of drawing perspectives.

Module V: Introduction to Rendering(dry and wet)

Presentation techniques in different types, medium and materials. Rendering perspectives in different media (Dry/water based color and ink etc.). Variation in color/ ink, as per light position. Use of basic plantation, vehicles, human beings etc to introduce scale to building perspectives.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Architectural Graphics, C. Leslie Martin

Perspective and Sciography, Shankar

Mulik Interior Design, Ahmed Kasu

Architectural Graphics, Ching

Frank Engineering Drawing, N.D.

Bhatt Engineering Drawing – P.S.

Gill References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather

Architectural Graphic standards editor, Boaz Joseph

Neufert's Architect's data

Time Saver standards for building types, Editor Joseph D.C. and

John Callender. Rendering with pen and ink.

BAR 205 HISTORY OF ARCHITECTURE-II

Course Code: BAR 205 **Credit Units: 02** **Teaching hours: 2**

Course Objective:

Understanding of the Area in terms of its location, climate as well as the socio-cultural historical, economical and political influences of the time and area.

Study of the building types and development of architectural form with examples that identify the works of the period.

Introduction to Indus valley civilization (3300b.c. – 300 b.c.), The era of development in the Indus valley. Development of Harappan civilization.Iron Age of India.explainthe Aryan civilization with examples of the buildings, construction technology, building materials used, evolution of form and development with significant changes over the time period.

Maurya period, Gupta Period, Chalukyas, Pallavs, Rajputana Period, Kaliga Period,

Chandelas, Module III: South Indian Architecture (100 A.D – Present Era)

Dravidian architecture, Rock- Cave Architecture- Ajanta Ellora, Indian Temple Architecture (North and South Indian Styles)- Sun temple, Khajurao, Kailash Temple and all famous Temples of India (char Dham and other holy pilgrimages) , Architecture of North India (Jammu Kashmir and Ladhakh, Himachal Pradesh, Uttarakhand)

Module IV: South Indian Architecture (100 A.D – Present Era)Buddhist and Jain architecture

Buddhist Architecture- study of Bodh Gaya and Sanchi Stupa, Development by Ashoka, Jain Architecture-Important Sites and Influences.

Introduction and understanding of "Islam's" philosophy and its interpretation in building types – Mosque, Tomb, Fort and their elements like dome, arches, minarets etc. With reference to the Slave, Khalji, Tughlaq, Lodi and Shershah Suri (who ruled from Delhi), architecture at Punjab, Gujrat, Bijapur and deccan.

Concepts of city Planning of various Islamic towns example- Shahajahanabad, Fhatehpur Sikri

etc.Monumemts – Qutab Complex, Tuglakabad, Taj Mahal, Gol Gumbaj, Golconda Fort, Jami Masjid etc.

The Architecture related to Babur, Humanyu, Akbar, Shahajan Period and later Mughal period its implication on Architectural field.

Measured drawing exercise may be combined with local educational tour, recommended by the subject teacher to be organized at the end of the semester after the examinations

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

- **"Glimpses of World History" by Pt. Jawahar Lal Nehru**
- **"The History of Architecture" by Sir Bannister Fletcher**
- **"Buddist and Hindu Architecture" in India by Satish Grover**
- **Indian Architecture (Islamic Period) – Percy Brown**
- **Indian Architecture – Islamic Period – 1192 – 1857 b – Dr. Surinder Bahai**
- **Islamic Architecture of the Indian Subcontinent – Bianca Maria Alferia**

References:

- **History of Architecture – J E Swain**
- **History of Architecture by Dora Couch**
- **A study of History – Almond Toynbee**
- **Traditions in Architecture – Dora Couch**
- **Indian Architecture (Islamic Period) – Percy Brown**
- **Indian architecture :Islamic period-1192-1857 – by Dr. Surinder Sahai**
- **Islamic architecture of the Indian subcontinent – by Binaca Maria Alfieri**
- **The great age of world architecture –By G K Hiraskar**

BAR 206BUILDING SERVICES – I (Water Supply & Sanitation)

Course Code: BAR 206 **Credit Units: 02** **Teaching hours: 2 Hours**

Course Objective:

To acquaint students to basic principles of water supply, sanitation and plumbing bye laws and systems.

To assist them in design of plumbing systems at building to town level for different typologies.

Course Contents:

Module I: Water supply

Introduction to water supply- sources of water; impurities, purification and treatment of water, Need to protect water and requirements of water supply for different building types- storage, distribution. Sources and methods of water supply and distribution; schematic making of an overhead water reservoir for a town/city.

Module II: Drainage systems

Concept, design and detailing of drainage systems at micro and macro level- Introduction to municipal drainage systems at town level, Building/ Site planning for drainage systems, Rainfall, Storm water drains, gullies, open drains (construction, gradients, ventilation and maintenance etc.). Concept, design and detailing of rainwater harvesting systems. Self-cleansing velocity, invert levels, drains on sloping sites, sewage disposal system in unsewered localities- septic tank, soak pits, cesspools, aqua-privy, leeching pits for individual building of urban and rural areas.

Module III: Sanitation- Sewerage

Purpose and principles, collection and conveyance of waste matter. Sewage treatment plants and bye products.Sewage system design at building and town level.Sanitary appliances, fixture, traps, pipes and joints, drainage in non-municipal areas.Plumbing bye laws. Plumbing design of a toilet and kitchen

Module IV: Sanitation- Solid waste management

Garbage types, collection and disposal- Purpose and methods (Incinerator, Dry disposal etc.). Garbage disposal in multistory buildings, Treatment of industrial refuse, Refuse and pollution problems.R4 of waste management.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Water supply, waste disposal and environmental engineering,
Chatterjee Water supply and sanitary engineering, Singh
Water supply and sanitation, Shah
S.C.Rangwala, "Water supply and sanitary engineering", Chartar publishing house, Anand,1989.

References:

Design and practical handbook of plumbing, Mohan &
Anand Plumbing- Design and practice, Deolalikar
Civil handbook, Khanna
Building construction details, Banz
Maintenance of buildings, Panchdhari
G.M. Fair, J.C. Geyer and D.Okun, "Water and Waste water engineering", Volume II, JohnWiley & Sons, Inc. New York, 1968
Manual on sewerage and sewerage treatment, CPHEEO – Ministry of works and housing, NewDelhi, 1980
Renewable energy, basics and technology, supplement volume on integrated energysystems, Auroville, 1998

BAR 207 STUDY TOUR /NASA / EXTRA CURRICULAR ACTIVITY-I

(Evaluation)

Course Code: BAR 207 **Credit Units: 01** **Teaching hours: NIL**

Guidelines:

Students shall visit different parts of Rjasthan.
The report shall be evaluated and marks shall be added in even semester, for study tour.
It shall be related to the studies done in history of architecture, art & culture and Architecture Design of current & pervious semester.
Student will be marked for work done for national / Zonal convention of NASA (National Association of student of architecture) & any other activity related to NASA.
Participation of every student will be compulsory in activities related to NASA though every student may not be attending the same. Report will be submitted for evaluation of NASA work.
Marking will be done for work done for NASA, in current & pervious semester.
Evaluation for all extracurricular activities will be done in this course (for current & pervious semester).

The Layout Guidelines for the Report

A4 size Paper
Font: Arial (10 points) or Times New Roman (12 points)
Line spacing: 1.5
Top and bottom margins: 1 inch/ 2.5 cm; left and right margins: 1.25 inches/ 3 cm The report can be hand written as well
The report shall be properly bound and submitted individually.

Assessment Scheme:

Continuous Evaluation:	**50% (Based on punctuality, regularity of work.)**
Final Evaluation:	**50% (Based on the Documentation in the file/ presentation/ viva)**

EVS 201ENVIRONMENTSCIENCE

Course Code: EVS 201 **CréditUnit: 03** **Teaching hours: 04**

Course Objective:

The term environment is used to describe, in the aggregate, all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organisms. At present a great number of environment issues, have grown in size and complexity day by day, threatening the survival of mankind on earth. A study of environmental studies is quite essential in all types of environmental sciences, environmental engineering and industrial management. The objective of environmental studies is to enlighten the masses about the importance of the protection and conservation of our environment and control of human activities which has an adverse effect on the environment.

Course Contents:

Module I: The multidisciplinary nature of environmental studies	**Definition, scope and importance** **Need for public awareness** **Renewable and non-renewable resources:**
Module II: Natural Resources	**Natural resources and associated problems; Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.** **Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.** **Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.** **Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.** **Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.** **Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.** **Role of an individual in conservation of natural resources.** **Equitable use of resources for sustainable lifestyles.**
Module III: Ecosystems	**Concept of an ecosystem, Structure and function of an ecosystem** **Producers, consumers and decomposers, Energy flow in the ecosystem** **Ecological succession, Food chains, food webs and ecological pyramids** **Introduction, types, characteristic features, structure and function of the following ecosystem:** **a. Forest ecosystem** **b. Grassland ecosystem** **c. Desert ecosystem** **d. Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries)**
Module IV: Biodiversity and its conservation	**Introduction – Definition: genetic, species and ecosystem diversity** **Biogeographical classification of India** **Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values** **Biodiversity at global, national and local levels** **India as a mega-diversity nation** **Hot-spots of biodiversity** **Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts** **Endangered and endemic species of India** **Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity**
Module V: Environnemental Pollution	**~~Definition, causes, effects and control measures of:~~** **a. Air pollution** **b. Water pollution** **c. Soil pollution** **d. Marine pollution** **e. Noise pollution** **f. Thermal pollution** **g. Nuclear pollution** **Solid waste management: Causes, effects and control measures of urban and industrial wastes.Role of an individual in prevention of pollution.**

	Pollution case studies. **Disaster management: floods, earthquake, cyclone and landslides.**
Module VI: Social Issues and the Environment	**From unsustainable to sustainable development** **Urban problems and related to energy** **Water conservation, rain water harvesting, watershed management** **Resettlement and rehabilitation of people; its problems and concerns.** **Case studies, Environmental ethics: Issues and possible solutions** **Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.** **Wasteland reclamation, Consumerism and waste products** **Environmental Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness**
Module VII: Human Population and the Environment	**Population growth, variation among nations** **Population explosion – Family Welfare Programmes Environment and human health** **Human Rights, Value Education, HIV / AIDS, Women and Child Welfare Role of Information Technology in Environment and Human Health Case Studies**
Module VIII: Field Work	**Visit to a local area to document environmental assets-river / forest/ grassland/ hill/ mountain.** **Visit to a local polluted site – Urban / Rural / Industrial / Agricultural Study of common plants, insects, birds** **Study of simple ecosystems-pond, river, hill slopes, etc (Field work equal to 5 lecture hours)**

Examination Scheme:

Components	CT	HA	S/V/Q	A	EE
Weightage (%)	15	5	5	5	70

Text & References:

Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.

Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad 380 013, India, Email:mapin@icenet.net (R)

Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.

480p Clark R.S., Marine Pollution, Clanderson Press Oxford (TB)

Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai, 1196p

De A.K., Environmental Chemistry, Wiley Eastern Ltd.

Down to Earth, Centre for Science and Environment (R)

Gleick, H.P. 1993. Water in Crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford Univ. Press. 473p

Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)

Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press 1140p.

Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.

Mckinney, M.L. & School, R.M. 1996. Environmental Science Systems & Solutions, Web enhanced edition. 639p.

Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB)

Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)

Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p

Rao M N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd. 345p. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut

Survey of the Environment, The Hindu (M)

Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science

Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (R)

Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (TB)

Wanger K.D., 1998 Environnemental Management. W.B. Saunders Co. Philadelphia, USA 499p

BCS 201ENGLISH

Course Code:BCS 201 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

The course is intended to give a foundation of English Language. The literary texts are indented to help students to inculcate creative & aesthetic sensitivity and critical faculty through comprehension, appreciation and analysis of the prescribed literary texts. It will also help them to respond form different perspectives.

Course Contents:

Module I: Vocabulary	**Use of Dictionary** **Use of Words: Diminutives, Homonyms &**	
Module II: Essentials of Grammar - I	**Homophones Articles** **Parts of Speech** **Tenses**	
Module III: Essentials of Grammar - II	**Sentence Structure** **Subject -Verb agreement** **Punctuation**	
Module IV: Communication	**The process and importanc** **Principles & benefits of Effective Communication**	
Module V: Spoken English Communication	**Speech Drills** **Pronunciation and accent** **Stress and Intonation**	
Module VI: Communication Skills-I	**Developing listening skills** **Developing speaking skills**	
Module VII: Communication Skills-II	**Developing Reading Skills** **Developing writing Skills**	
Module VIII: Written English communication	**Progression of Thought/ideas** **Structure of Paragraph** **Structure of Essays**	
Module IX: Short Stories	**Of Studies, by Francis Bacon** **Dream Children, by Charles Lamb** **The Necklace, by Guy de Maupassant** **A Shadow, by R.K. Narayan** **Glory at Twilight, Bhabani Bhattacharya**	
Module X: Poems	**All the Worlds a Stage** **To Autumn** **O! Captain, My Captain.** **Where the Mind is Without Fear** **Psalm of Life**	**Shakespeare** **Keats** **Walt Whitman** **Rabindranath Tagore** **H.W. Longfellow**

Examination Scheme:

Components	A	CT	HA	EE
Weightage (%)	05	15	10	70

Text & References:

Madhulika Jha, Echoes, Orient Long Man

Ramon & Prakash, Business Communication, Oxford.

Sydney Greenbaum Oxford English Grammar, Oxford.

Successful Communications, Malra Treece (Allyn and Bacon)

Effective Technical Communication, M. Ashraf Rizvi.

BSS 201BEHAVIOURAL SCIENCE – II

(PROBLEM SOLVING AND CREATIVE THINKING)

Course Code: BSS 201 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To enable the students:

Understand the process of problem solving and creative thinking.
Facilitation and enhancement of skills required for decision-making.

Course Contents:

Module I: Thinking as a tool for Problem Solving	**What is thinking: The Mind/Brain/Behaviuor** **Critical Thinking and Learning: Making Predictions and Reasoning Memory and Critical Thinking** **Emotions and Critical Thinking** **Thinking skills**
Module II: Hindrances to Problem Solving Process	**Perception** **Expression** **Emotion** **Intellect** **Work environment**
Module III: Problem Solving	**Recognizing and Defining a problem** **Analyzing the problem (potential causes)** **Developing possible alternatives** **Evaluating Solutions** **Resolution of problem** **Implementation** **Barriers to problem solving:** - **Perception** - **Expression** - **Emotion** - **Intellect** - **Work environment**
Module IV: Plan of Action	**Construction of POA** **Monitoring** **Reviewing and analyzing the outcome**
Module V: Creative Thinking	**Definition and meaning of creativity The nature of creative thinking Convergent and Divergent thinking** **Idea generation and evaluation (Brain Storming) Image generation and evaluation** **Debating** **The six-phase model of Creative Thinking:**
Module VI:End-of-Semester Appraisal	**ICEDIP model Viva based on personal journal** **Assessment of Behavioural change as a result of training Exit Level Rating by Self and Observer**

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)	VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25

Text & References:

Michael Steven: How to be a better problem solver, Kogan Page, New Delhi, 1999
Geoff Petty: How to be better at creativity; Kogan Page, New Delhi, 1999
Richard Y. Chang and P. Keith, Kelly: Wheeler Publishing, New Delhi, 1998.
Phil Lowe Koge Page: Creativity and Problem Solving, New Delhi, 1996
J William Pfeiffer (ed.) Theories and Models in Applied Behavioural Science, Vol 3, Management (1996); Pfeiffer & Company
Bensley, Alan D.: Critical Thinking in Psychology – A Unified Skills Approach, (1998), Brooks/Cole Publishing Company.

FOREIGN LANGUAGE 201

FLF 201 FRENCH - II

Course Code: FLF 201 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to overcome the fear of speaking a foreign language and take position as a foreigner speaking French.

To make them learn the basic rules of French Grammar.

Course Contents:

Module A : pp.38 – 47 : Unité 3 : Objectif 3, 4, 5. 6

Module B: pp. 47 to 75 Unité 4, 5

Contenu lexical: **Unité 3: Organiser son temps**

1. **donner/demander des informations sur un emploi du temps, un horaire SNCF – Imaginer un dialogue**
2. **rédiger un message/ une lettre pour …**
   i) **prendre un rendez-vous/ accepter et confirmer/ annuler**
   ii) **inviter/accepter/refuser**
3. **Faire un programme d'activités**

imaginer une conversation téléphonique/un dialogue

Propositions- interroger, répondre

Unité 4:Découvrir son environnement

1. **situer un lieu**
2. **s'orienter, s'informer sur un itinéraire.**
3. **Chercher, décrire un logement**
4. **connaître les rythmes de la vie**

Unité 5: s'informer

1. **demander/donner des informations sur un emploi du temps passé.**
2. **donner une explication, exprimer le doute ou la certitude.**
3. **découvrir les relations entre les mots**
4. **savoir s'informer**

Contenu grammatical:

1. **Adjectifs démonstratifs**
2. **Adjectifs possessifs/exprimer la possession à l'aide de :**
   i. **« de » ii. A+nom/pronom disjoint**
3. **Conjugaison pronominale – négative, interrogative - construction à l'infinitif**
4. **Impératif/exprimer l'obligation/l'interdiction à l'aide de « il faut…. »/ «il ne faut pas… »**
5. **passé composé**
6. **Questions directes/indirectes**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre : Campus: Tome 1

FLG 201GERMAN – II

Course Code:FLG 201 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany.Introduction to Grammar to consolidate the language base learnt in Semester I

Course Contents:

Module I: Everything about Time and Time periods

Time and times of the day.

Weekdays, months, seasons.

Adverbs of time and time related prepositions

Module II: Irregular verbs

Introduction to irregular verbs like to be, and others, to learn the conjugations of the same, (fahren, essen, lessen, schlafen, sprechen und ähnliche).

Module III: Separable verbs

To comprehend the change in meaning that the verbs undergo when

used as such Treatment of such verbs with separable prefixes

Module IV: Reading and comprehension

Reading and deciphering railway schedules/school time table

Usage of separable verbs in the above context

Module V: Accusative case

Accusative case with the relevant articles

Introduction to 2 different kinds of sentences – Nominative

and Accusative Module VI: Accusative personal pronouns

Nominative and accusative in comparison

Emphasizing on the universal applicability of the pronouns to both

persons and objects Module VII: Accusative prepositions

Accusative propositions with their use

Both theoretical and figurative use

Module VIII: Dialogues

Dialogue reading: 'In the market place'

'At the Hotel'

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für
Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 201SPANISH – II

Course Code: FLS 201 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire more vocabulary, grammar, Verbal Phrases to understand simple texts and start describing any person or object in Simple Present Tense.

Course Contents:

Module I

Revision of earlier modules.

Module II

Some more AR/ER/IR verbs. Introduction to root changing and irregular

AR/ER/IR ending verbs Module III

More verbal phrases (eg, Dios Mio, Que lastima etc), adverbs (bueno/malo, muy, mucho, bastante, poco).

Simple texts based on grammar and vocabulary done in earlier modules.

Module IV

Posessive pronouns

Module V

Writing/speaking essays like my friend, my house, my school/institution, myself….descriptions of people, objects etc, computer/internet related vocabulary

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Español, En Directo I A

Español Sin Fronteras

FLJ 201JAPANESE - II

Course Code: FLJ 201 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse in the language with the help of basic particles and be able to define the situations and people using different adjectives.

Course Contents:

Module I: Verbs

Transitive verbs, intransitive verbs

Module II: More prepositions

More particles, articles and likes and dislikes.

Module III: Terms used for instructions

No parking, no smoking etc.

Module IV: Adverbs

Different adverbial expression.

Module V: Invitations and celebrations

Giving and receiving presents,

Inviting somebody for lunch, dinner, movie and how to accept and refuse in

different ways Module VI: Comprehension's

Short essay on Family, Friend etc.

Module VII: Conversations

Situational conversations like asking the way, At a post

office, family Module VIII: Illness

Going to the doctor, hospital etc.

Learning Outcome

Students can speak the language describing above-mentioned topics. Methods of Private study /Self help

Handouts, audio-aids, and self-do assignments.
Use of library, visiting and watching movies in Japan and culture center every Friday at 6pm.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Text:
Teach yourself Japanese

References:
Shin Nihongo no kiso 1

FLC 201CHINESE – II

Course Code: FLC 201 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Chinese is a tonal language where each syllable in isolation has its definite tone (flat, falling, rising and rising/falling), and same syllables with different tones mean different things. When you say, "ma" with a third tone, it mean horse and "ma" with the first tone is Mother. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I	**Drills** **Practice reading aloud** **Observe Picture and answer the question.** **Tone practice.** **Practice using the language both by speaking and by taking notes.** **Introduction of basic sentence patterns.** **Measure words.Glad to meet you**
Module II	**Where do you live?** **Learning different colors.** **Tones of "bu"** **Buying things and how muchit costs?** **Dialogue on change of Money.** **More sentence patterns on Days and Weekdays.** **How to tell time. Saying the units of time in Chinese. Learning to say useful phrases like – 8:00, 11:25, 10:30 P.M. everyday, afternoon, evening, night, morning 3:58, one hour, to begin, to end ….. etc.Morning, Afternoon, Evening, Night.**
Module III	**Use of words of location like-li, wais hang, xia** **Furniture – table, chair, bed, bookshelf,.. etc.** **Description of room, house or hostel room..eg what is placed where and how many things are there in it?** **Review Lessons – Preview Lessons.** **Expression 'yao", "xiang" and "yaoshi" (if).** **Days of week, months in a year etc.** **I am learning Chinese. Is Chinese difficult?**
Module IV	**Counting from 1-1000** **Use of "chang-chang".** **Making an Inquiry – What time is it now? Where is the Post Office?** **Days of the week. Months in a year.** **Use of Preposition – "zai", "gen".** **Use of interrogative pronoun – "duoshao" and "ji".** **"Whose"??? Sweater etc is it?** **Different Games and going out for exercise in the morning.**
Module V	**The verb "qu"** **Going to the library issuing a book from the library Going to the cinema hall, buying tickets** **Going to the post office, buying stamps** **Going to the market to buy things.. etc** **Going to the buy clothes …. Etc.** **Hobby. I also like swimming.** **Comprehension and answer questions based on it.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	15	5	

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

"Elementary Chinese Reader Part I" Lesson 11-20

THIRD SEMESTER

BAR 301 Architectural Design – III

Course Code: BAR 301 **Credit Units: 06** **Teaching hours: 06**

Course Objective:to learn formulation of design concept and development of simple but imaginative built forms. Student shall learn to correlate spaces to have simple and efficient circulation.Emphasis shall be on understanding the design requirements, organization of spaces and their inter-relationship and working and best circulation with interesting 3d shapes and volumes.

Course Contents:

Module I: Introduction	**Introduction to similar and familiar problems and making a study through case Studies-Primary and secondary (study of live projects and analysis presentation). User requirement analysis based on case studies and standards.**
Module II: Site Study and Analysis	**Understanding the Site and surroundings, location, local climatic conditions, topography, context, existing landscape, socio- cultural impact on design. Study of locally available material, technology and resources, presentation of**
Module III: Built form and Building design development	**the study Concept development, detailed study of functions, circulation and connectivity with overall planning. Study of relationship of built and open spaces, interlinking of various activities, volumetric analysis, Façade treatment- Interior and exterior. Overall design development till last stage**
Module IV: Creative Exercise	**Creative exercise for the better understanding of the design problem and also to enhance the interest and development of thought process for handling a particular problem amongst students.**
Module V: Site Planning	**Introduction to Site Planning concept and techniques, Understanding the parameters and process of development of Site Planning. sitting the design project.**
Module IV: Circulation	**Movement of Vehicles/ Parking Spaces, Horizontal and Vertical circulations, Pedestrian and vehicular Circulation and Movement with Parking facilities**
Module VII: Architectural Presentation	**Enhancement of presentation skills using multiple media. Creation of 3-D models based on the design.**
Module VIII: Design Exercise	**The exercise based on the above modules may be Residential building/flats/Institutional/ Government or Private/ Commercial/ covering approximately a site area of 1500- 2000 sqm and following the local building bye laws. Eg: Kindergarten School, Primary Health Centre, Doctor's Clinic, small Cafeteria, Motel, Village Post Office, Bank extension counter, Police Station, Architect's Office, Departmental Store, School Gymkhana and Youth Club etc.**

The final submission shall necessarily include a model for at least one of the two main problems.

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Text & References:

Text:

Architectural Graphics: C. Leslie Martin

Perspective for the Architect: Themes and Hudson

Perspective and Sciography, Shankar Mulik

Mastering AutoCAD: George Omura

Interior Design: Ahmed Kasu

Architectural Graphics – Ching Frank

Engineering Drawing – N.D. Bhatt

References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather

Architectural Graphic standards editor – Boaz Joseph

Planning – the Architect's handbook, E and E.O. Neufert's Architect's data

Time Saver standards for building types, Editor Joseph D.C. and John Callender. Rendering with pen and ink

Practical Plane and Solid Geometry – H. Joseph and Morris

BAR 302 Materials & Construction Technology – III

Course Code: BAR 302 Credit Units: 03 Teaching hours: 04

Course Objective:

To acquaint the students about cement and cement concreteas a building materials and to familiarize them with construction techniques for use of the above materials in building works.

Course Contents:

Module I: Introduction to Reinforced Cement Concrete

Cement and cement concrete: Types, Mixing, Curing, Water Cement Ratio etc.

Reinforced Brick Concrete: Qualities and Workability.

Introduction to R.C.C, its usage, types, making and availability with its advantages and disadvantages.

Concreting under special conditions.

Module II: Foundation: shallow and deep foundation

R.C.C. footings, isolated, strip, combined footings, Raft, Pile foundation with their detail.

Module III: Staircases:

Different types of R.C.C. Staircases with their construction detail.

Module IV: Special Details

R.C.C. columns and beam structure, roof forms and its connection with structure.

R.C.C. work defects and its treatment.

Expansion joints and its detail.

R.C.C. roof with water proofing details.

Module V: Temporary constructions: Shoring, underpinning, strutting, formwork, scaffolding etc. in timber and steel.

Exercises: Identification of materials and study of relevant I.S. codes, field trips, preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Building construction W.B.McKay

Building construction R Berry

Building construction Chudley

Building construction Francis D.K. Ching

Civil Engineering Handbook, P.N. Khanna

R.C.C. Design, Khurmi, Punmia, Sushil Kumar Design of Steel Structure, Negi

Structure in Architecture, Salvadori and Heller.

BAR 303 Structural Design and Systems – III

Course Code: BAR 303 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To understand the transformation of basic components of structural system into the analysis of structural system like:- analytical approaches in the beams & columns by using different kind of methods.

To help the students for understanding the analytical methods by using statical methods which is described below.

Course Contents:

Module I:- Forms of structure

Determinacy & indeterminacy of the rigid as well as pin jointed structures, definition of static & kinematic indeterminacy, its application in plane & space forms structures.

Module II: Shear Force & Bending Moments calculation & its diagramatic presentation by Moment distribution method:-

Introduction of S.F.D & B.M.D. calculation of shear force & bending moment by using moment distribution method for all types of support & loading system.

Module III: -Shear Force & Bending Moments calculation & its diagramatic presentation by Slope deflection methods:-

Introduction of S.F.D & B.M.D. calculation of shear force & bending moment by slope deflection methods for all types of support & loading system.

Module IV:-Shear Force & Bending Moments calculation & its diagramatic presentation by strain energy methods:-

Introduction of S.F.D & B.M.D. calculation of shear force & bending moment by Strain energy method for all types of support & loading system.

Module V:- Arches

Introduction, definition, three & two hinged arches, fixed arches. Parabolic & circular arches.& its application in architecture system.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Strength of Materials – Khurmi R. S.

Applied Mechanics and Strength of Materials – Khurmi R. S. Structure in Architecture – Salvadori and Heller

Mechanics of materials – E. P. Popov

Theory of Structures- S. Ramanatham.

Structural analysis Vol.-I By S. Bhavikatti

Structural analysis Vol.-II By S. Bhavikatti

Elements of Structure by Morgan

Structures in Architecture by Salvado

Structure and Fabric by Everet

BAR 304 GRAPHIC SKILLS– III (Computer aided)

Course Code: BAR 304 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To introduce computer graphics to students.To train students in drafting and presentation techniques using computers.

Course Contents:

Module I: Intro to Computer Graphicsand basic application of 2D drafting Software

Introduction to Auto CAD.X-Y co-ordinate system, inputting points, the Auto CAD screen, basic Auto CAD terminology, basic drafting commands. Drawing one & two point perspective views using Autocad.

Module II: Auto Cad (2-D): basic commands and introduction to use of printing equipment's and hardware

To setting up a drawing environment; setting the paper size setting unit setting grid limit, drawing limit, snap controls. Two-dimensional drafting work to be handled in detail on Auto Cad. Basic Drafting commands (Related to drafting of line to All geometrical shapes).

Familiarizing the use of printers, plotters their hardware and other related systems.Various Settings & different mode to print Auto CAD drawing. Importing & exporting the drawings from one software into other.

Module III: Auto Cad (2-D): modifying commands

Basic commands related to drawing properties "layer control change properties, line-weight control". Use of Display Commands, editing commands,, construction commands, enquiry commands etc.,Hatching & texting in drawing, Working on layout & x-ref etc.Drafting of Plan(s), Elevation(s) and Section(s).

Module IV: Auto Cad (2-D): advanced commands

Draw, edit and create a complete set of architectural drawings for a dwelling unit usingAutoCad Plan(s), Elevation(s) and Section(s) in detail.Create final presentation and documentation of 2D drawings in AutoCad.

Module V: Use of photo editing Software

Photo editing as well as preparation of 2-D presentations and rendering views on Photoshop/ Corel Draw.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Perspective for the Architect: Themes and Hudson

- **Mastering AutoCAD: George Omura**
- **Manuals of Autocad – Autodesk Inc.**
- **Computer graphics and design, Radhakrishnan**
- **Inside Autocad--parker,denial& rice**

Adobe Photoshop user guide/manual.

References:

Neufert's Architect's data

Time Saver standards for building types, Editor Joseph D.C. and John Callender. Manuals of Autocad – Autodesk Inc.

BAR 305 History of Architecture – III

Course Code: BAR 305 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Understanding the world architecture during the Greek, Roman Romanesque Period and Gothic Period, Study of specific Architectural characteristics and their origin in above mentioned period.

Course Contents:

Module I: Roman Architecture

Evolution and Development, Multiple building types to correspond the complex social functions and structure. Complex axial organization of forms.Concrete and construction of vaults and domes.Uses of classical orders in surface articulation. Study of important forums, Temples, Basilicas, Theaters, Amphitheatres, Circuses, Tombs, Triumphal arches, palaces, houses and villas.

Module II: Early Christian Architecture

Development of early church and Roman basilica. Design of early churches based on Christian religious beliefs.

Interiors of churches and the articulation of interiors to create spiritualized space.

Module III: Byzantine Architecture

Study of Italian basilicas and churches.Centralization in churches, Centrality and interiors of both cross domed and cross in square plan churches. Interior and exterior of churches with heavenly interiors.Construction of domes over polygonal compartments through the use of pendentives.Study of important churches of the Time period.

Module IV: Romanesque Architecture

Spatial and formal integration of Romanesque churches.Integration of wall and vaults.Ribbed vault and the dissolution of external wall to allow light.Sensitivity to light and use of stained glass for mysterious interiors.Need and development of different external buttressing. Study of important cathedrals and churches in France

Module IV: Gothic Architecture

Massiveness and verticality of medieval churches.Combination of towered structures and longitudinal basilica. Gradual integration of towers from early to later with examples. Integration of centralized and longitudinal plans.Articulation of external wall like arcaded interiors resulting in dematerialization of exterior.Study of important cathedrals and churches from Italy and France.

Paper writing and Essays exercise may be optionally be considered, recommended by the subject teacher at the end of the semester after the examinations

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

- **"Glimpses of World History" by Pt. Jawahar Lal Nehru**
- **"Ubrban Pattern" by A.B. Gallion**
- **"The History of Architecture" by Sir Bannister Fletcher**
- **"Buddist and Hindu Architecture" in India by Satish Grover**

References:

- **History of Architecture – J E Swain**
- **History of Architecture by Dora Couch**
- **A study of History – Almond Toynbee**
- **Traditions in Architecture – Dora Couch**

BAR 306 Building Services - II (Electrical System & Lighting)

Course Code: BAR 306 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Integration of electrical system with building design. Application of indoor and outdoor lighting in various planning and installation requirement right from generation to actual building level so that the students could use the same in their design.

Course Contents:

Module I: Introduction to electrical systems
Introduction to electrical engineering services for buildings; Sources of electrical energy supplied to buildings Electricity generation, transmission and distribution. Instruments for measurement, metering; Electricity Authority, Act, rules and regulation regarding electrification of buildings; Standard Graphical symbols for electrical systems; electric fittings and appliances; Requirements of electrical materials such as conductors, insulators; Types and requirements of electrical cables

Module II: Electrical System design for a building
Basic Principles of electrical circuit, Methods of wiring -Open and concealed wiring system, distribution system and supply in a building, distribution board and meter, switches; Electrical load calculation,; Design considerations of electrical installations, Study of Electrical layout in a building.

Module III: Electrical safety and protection system
Protection against overload, short circuit, Control equipment such as switch gear, safety devices to be used in electrical layouts - Fuse, M.C.B, MCCB, ACB, VCB, RCB, ELCB; Earthing and Lightening Protection

Module IV: Photometric concepts and Daylighting
Introduction to basic photometric concept: Light its behaviour and properties,Instruments for measurement lux meters, field of vision, visual task, visual comfort and glare: objectives of lighting design in architecture; Daylighting-Sky illuminance, solar chart and daylight factor, methods for effective daylighting and glare control in interiors.

Module V: Artificial lighting
Type of lamps and luminaries, Outdoor lighting; methods for effective artificial lighting for different interior spaces like art galleries, offices spaces etc.Glare control in artificial lighting; Integration of Electrical lighting with day lighting, Energy conservation in artificial lighting (sensors etc.)

Module VI: Design exercise
Design and developed detailed layout of electrical and lighting services of previous semester design problem.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

1. **Raina K. B. & Bhattacharya S. K. (2007) Electrical Design, Estimating and Costing, New Age International Publishers, New Delhi.**
2. **Dagostino, F. R. (1978) Mechanical and Electrical Systems in Construction in Architecture, Reston Publishing Company, Prentice Hill Co., Virgenia.**
3. **Egan, D. M. (1983) Concepts in Architectural Lighting, McGraw Hill Book Company.**
4. **Flynn, J. E. et. al (1992) Architectural Interior Systems: Lighting, Acoustics and Air conditioning, Van Nostrand Reinhold**
5. **NBO (1966) Hand book for Building Engineers, National Buildings Organisation, New Delhi.**
6. **Grondzik, W. T., Kwok, A.G., Stein, B, Reynolds, J. S. (2009) Mechanical and Electrical Equipment for Buildings, Wiley**
7. **"Electric Heating",E.P. Ambrose,John Wiley & Sons Inc., New York, 1968.**
8. **Electrical Technology, Seventh Edition,H. Cotton,CBS publications, 2003**
9. **Design of Electrical Installations by Er. V.K. Jain and Er. Amitabh Bajaj**

BAR 307 Surveying & Leveling

Course Code: BAR 307 **Credit Units: 02** **Teaching hours: 03 Hours**

Course Objective:

Course is aimed to impart basic surveying principles and skills commonly needed in the planning of projects.

Demonstrate the role and application of modern surveying techniques and technologies.

Course Contents:

Module I: Introduction to surveying

Role of surveying in Architecture, Principle of surveying, types of surveying, units of measurements.

Module II: Linear measurement

Role of linear measurement, Different methods, Equipment- Tape, chain, Odometer, Arrows, Ranging rods, Stadia Tachometry, EDM, Total station. Procedure, errors, applications of linear measurement

Module III: Angular measurement

Various equipment's, theodolite, compass -surveyors & prismatic, simple numerical. Rectangular and polar coordinates, Definition of Traverse, Application of traversing, Equipment and field procedure.

Module IV: Leveling & Contouring

Definition, Levelling instruments, differential levelling, Booking and reduction, Longitudinal and cross sectioning, Contouring, Characteristics of contours, locating contours.

Module V: Plane tabling & Setting out works

Various equipment's, methods, & setting out works, triangulation method etc.

Simple methods of preparing on site drawings and layout of small buildings

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Engineering surveying – W. Schofield and Butterworth
Heinemann Surveying vol 1- B.C. Punmia
Surveying vol 1- S.K. Duggal

References:

Plane Surveying – Alak De

Domain Electives – I

BAR 308 Colors

Course Code: BAR 308 **Credit Units: 02** **Teaching hours: 02 Hours**

Course Objective: Learning the use of colours in Architecture. Understanding the impact of colours on human being and making its efficient use in architecture, its component and various products being used in buildings.

Module I: Study of classification of colours with different hues, values, and shades. Colour composition and properties. Colour wheel showing primary, secondary & tertiary colours. Chart showing Tints & tones of various colours, Colour combinations

Module II: Exploring Colour Schemes and its application on Architectural Forms & spaces : Assignment on Colour shall be aimed at developing the skills to create Visually pleasing Colour Schemes based on principles of Harmony and Contrast and degree of Chromatism.

Module III : Colour as an expressive element in architecture emphasize the character of a building and create harmony and unity, or it can be deliberately contrasting to enliven or emphasise. It may affect the way in which people respond to their surroundings and can enhance a mood of calm or elation.

Module IV: Approaches to colour in architecture and design. The use of colour in architecture More Than Just Decoration. Examples of colour uses by masters and making a report.

Module V :Color Psychology , Neuropsychological Aspects, Architectural Environments, Visual Ergonomics and Color. Sociological aspects related to different colours

Exercise: Parallel and angular exterior perspective views of objects of buildings in different colours medium rendered with appropriate colours showing shades and shadows. Effect of colour in relief compositions.

Students may be advised to use colours in interior and exterior rendering of different type shapes in different type shapes in different mediums to have firsthand experience.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

- **Architectural Rendering Albert & Habe How to paint & draw Jaxtheimer**
- **COLOR, Environment, & Human Response by Frank H. Mahnke**
- **Color-Communication in Architectural Space by Meerwein, Rodeck, Mahnke**
- **The role of colour in architecture by James A M Bell.**

BAR 309 Vernacular Architecture

Course Code: BAR 309 **Credit Units: 02** **Teaching hours: 02 Hours**

Course Objectives: To expose the students to traditional architecture of the various parts of the country.The students will have knowledge of the planning aspects, materials used in construction, constructional details and settlement planning of the settlements in various parts of the country.

Course Contents:

Module I: Introduction to Vernacular Architecture

Approaches and concepts to the study of Vernacular architecture – Introduction to Kutcha architecture and Pucca architecture and architecture without architects developed through experience based on local material.

Module II: Southern region

Planning aspects, materials of construction, Constructional details & Settlement Planning of:

- **Kerala – Nair houses (Tarawads), Kerala Muslim houses (Mappilah houses), Temples, Palaces and theaters – Thattchushastra.**
- **Tamil Nadu – Toda Huts, Chettinad Houses (Chettiars) & Palaces**
- **Karnataka – Gutthu houses (land owning community), Kodava ancestral home (Aynmane)**
- **Andhra Pradesh –Kaccha buildings Religious practices, beliefs, culture & climatic factors influencing the planning of the above.**

Module III: Western Region:

Planning aspects, Materials used, Constructional details, Climatic factors influencing the planning of

- **Jat houses for farming caste, Bhungas(Circular Huts) and Havelis(Pukka houses) of Rajasthan**
- **Pol houses of Ahmedabad - Primitive forms, Symbolism, Colour, Folk art etc in the architecture of the deserts of Kutch & Gujarat state.**
- **Vernacular architecture of Goa.**

Module IV Northern and Eastern India

Planning aspects, Materials used, Constructional details, Climatic factors influencing the planning of

- **Kashmir – Typical Kutcha houses, mosque, Dhoongas(Boathouses), Ladakhi houses, bridges**
- **Himachal Pradesh – Kinnaur houses**
- **Uttar Pradesh – Domestic housing of Uttar Pradesh**
- **Bengal – Bangla (Rural house form), Aat Chala houses – change from Bangla to Bungalow, Kutcha & Pucca architecture of Bengal.Nagaland – Naga houses & Naga village, Khasi houses Factors influencing the planning aspects, materials of construction& constructional details of the above.**

Module V : overview of vernacular Architecture of neighbouring countries and world such as Africa, UAE etc.

Exercise : students may be advised to prepare case studies through literature/online/ site visits and submit report.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

- **Traditional buildings of India, Ilay Cooper, Thames and Hudson Ltd., London**
- **Architecture of the Indian desert, Kulbushan Jain & Meenakshi Jain, Aadi Centre, Ahmedabad**
- **The Royal Palaces of India, George Michell, Thames and Hudson Ltd., London**
- **Chettiar Heritage, S.Muthiah, Meenakshi Meyappan, Visalakshmi RAMASWAMY, Lokavani-Hallmark Press Pvt. Ltd., Chennai**
- **Encyclopaedia of Vernacular architecture of the World, Cambridge University Press**
- **Havali – Wooden houses & mansions of Gujarat, V.S.Pramar, Mapin Publishing Pvt. Ltd., Ahmedabad**
- **The Tradition of Indian architecture – Continuity & Controversy – Change since 1850, G.H.R.Tillotsum, Oxford University Press, Delhi**
- **VISTARA – The architecture of India, Carmen Kagal. Pub : The Festival of India, 1986.**
- **House, Form & Culture, Amos Rappoport, Prentice Hall Inc, 1969.**

BAR 310 Adobe Construction

Course Code: BAR 310 **Credit Units: 02** **Teaching hours: 02 Hours**

Course Objectives:

To provide technical and structural details of adobe as construction material and fundamentals of buildings with a focus on Adobe bricks.

Student Learning Outcomes:

Students will learn the adobe construction through theoretical and practical instructions, its uses and application in architecture and how it serves green architecture.

Module I: Introduction

History/Origin of adobe , its composition, material properties, its geology, advantages and disadvantages of adobe, adobe around the world and its utilization, relation with other building materials.

Module II: Adobe as a construction material

Types of adobe, Adobe bricks and its making, adobe wall construction and detailing, its applications and uses, adobe as low cost building material and its application in green buildings, conservation & preservation of adobe buildings, overview of basic tools needed for adobe construction,

Module III : Adobe architecture

Overview of adobe architectural style, their pros and cons, making a 2-brick adobe form, Floors & Roofs for adobe construction, Basic overview of plumbing and electrical installation for adobe wall, Interior and exterior plastering of adobe walls.

Module IV: Seminar and Workshop

- **Case studies on Adobe architecture and construction across the globe.**
- **Hands-on construction experience in adobe structures, learning how to make adobe blocks, laying adobe block, and applying a plaster finish.**

Lectures and presentations on the above given modules for better understanding of the subject.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

- **Adobe Conservation by Cornerstone Staff, 2006**
- **Simone Swan, Adobe Building by Dennis Dollens, 2006**
- **A complete guide to alternative Home building materials and methods, by Jon Nunan, 2009**
- **Adobe: Build it yourself, by Paul Graham McHenry**
- **Building with Earth: Design and Technology of Sustainable Architecture, by Gernot Minke**

BCS 301 COMMUNICATION SKILLS - I

Course Code: BCS 301 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To form written communication strategies necessary in the workplace

Course Contents:

Module I: Introduction to Writing Skills

Effective Writing Skills

Avoiding Common Errors

Paragraph Writing

Note Taking

Writing Assignments

Module II: Letter Writing

Types

Formats

Module III

Memo

Agenda and Minutes

Notice and Circulars

Module IV: Report Writing

Purpose and Scope of a Report

Fundamental Principles of Report Writing

Project Report Writing

Summer Internship Reports

Examination Scheme:

Components	CT1	CT2	CAF	V	GD	GP	A
Weightage (%)	20	15	30	10	10	10	5

CAF – Communication Assessment File

GD – Group Discussion

GP – Group Presentation

Text & References:

Business Communication, Raman – Prakash, Oxford

Creative English for Communication, Krishnaswamy N,
Macmillan Textbook of Business Communication, Ramaswami
S, Macmillan Working in English, Jones, Cambridge
A Writer's Workbook Fourth edition, Smoke,
Cambridge Effective Writing, Withrow, Cambridge
Writing Skills, Coe/Rycroft/Ernest,
Cambridge Welcome!, Jones, Cambridge

BSS 301 BEHAVIOURAL SCIENCE – III(Interpersonal Communication)

Course Code: BSS 301 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

This course provides practical guidance on Enhancing personal effectiveness and performance through effective interpersonal communication and Enhancing their conflict management and negotiation skills

Course Contents:

Module I: Interpersonal Communication: An
Introduction Importance of Interpersonal
Communication Types – Self and Other Oriented
Rapport Building – NLP, Communication Mode
Steps to improve Interpersonal Communication
Module II: Behavioural Communication
Meaning and Nature of behavioiural communication
Persuasion, Influence, Listening and Questioning
Guidelines for developing Human Communication skills
Relevance of Behavioural Communication for personal and
professional development Module III: Interpersonal Styles
Transactional Analysis
Life Position/Script Analysis
Games Analysis
Interactional and Transactional Styles
Module IV: Conflict Management
Meaning and nature of conflicts
Styles and techniques of conflict management
Conflict management and interpersonal communication
Module V: Negotiation Skills
Meaning and Negotiation approaches (Traditional and Contemporary)
Process and strategies of negotiations
Negotiation and interpersonal communication
Module VI: End-of-Semester Appraisal
Viva based on personal journal
Assessment of Behavioural change as a result of training
Exit Level Rating by Self and Observer

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)	VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25

Text & References:

- **Vangelist L. Anita, Mark N. Knapp, Inter Personal Communication and Human Relationships: Third Edition, Allyn and Bacon**
- **Julia T. Wood. Interpersonal Communication everyday encounter**
- **Simons, Christine, Naylor, Belinda: Effective Communication for Managers, 1997 1st Edition Cassel**
- **Goddard, Ken: Informative Writing, 1995 1st Edition, Cassell**
- **Harvard Business School, Effective Communication: United States of America**
- **Foster John, Effective Writing Skills: Volume-7, First Edition 2000, Institute of Public Relations (IPR)**
- **Beebe, Beebe and Redmond; Interpersonal Communication, 1996; Allyn and Bacon Publishers.**

FOREIGN LANGUAGE 301

FLF 301 FRENCH - III

Course Code: FLF 301 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To provide the students with the know-how

To master the current social communication skills in oral and in written.

To enrich the formulations, the linguistic tools and vary the sentence construction without repetition.

Course Contents:

Module B: pp. 76 – 88 Unité 6

Module C: pp. 89 to103 Unité 7

Contenu lexical: Unité 6:se faire plaisir

1. **acheter : exprimer ses choix, décrire un objet (forme, dimension, poids et matières) payer**
2. **parler de la nourriture, deux façons d'exprimer la quantité, commander un repas au restaurant**
3. **parler des différentes occasions de faire la fête**

Unité 7: Cultiverses relations

1. **maîtriser les actes de la communication sociale courante (Salutations, présentations, invitations, remerciements)**
2. **annoncer un événement, exprimer un souhait, remercier, s'excuser par écrit.**
3. **caractériser une personne (aspect physique et caractère)**

Contenu grammatical :

1. **accord des adjectifs qualificatifs**
2. **articles partitifs**
3. **Négations avec de, ne…rien/personne/plus**
4. **Questions avec combien, quel…**
5. **expressions de la quantité**
6. **ne…plus/toujours - encore**
7. **pronoms compléments directs et indirects**
8. **accord du participe passé (auxiliaire « avoir ») avec l'objet direct**
9. **Impératif avec un pronom complément direct ou indirect**
10. **construction avec « que » - Je crois que/ Je pense que/ Je sais que**

Examination Scheme:

~~Components~~	CT1	CT2	C	I	V	A
Weightage (%)	20	15	20	20	20	5

C – Project +Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre : Campus: Tome 1

FLG 301 GERMAN - III

Course Code: FLG 30 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language. To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany

Course Contents:

Module I: Modal verbs

Modal verbs with conjugations and usage

Imparting the finer nuances of the language

Module II: Information about Germany (ongoing)

Information about Germany in the form of presentations or "Referat"– neighbors, states and capitals, important cities and towns and characteristic features of the same, and also a few other topics related to Germany.

Module III: Dative case

Dative case, comparison with accusative case

Dative case with the relevant articles

Introduction to 3 different kinds of sentences – nominative,

accusative and dative Module IV: Dative personal pronouns

Nominative, accusative and dative pronouns in comparison

Module V: Dative prepositions

Dative preposition with their usage both theoretical and

figurative use Module VI: Dialogues

In the Restaurant,
At the Tourist Information Office,
A telephone conversation

Module VII: Directions

Names of the directions

Asking and telling the directions with the help of a roadmap

Module VIII: Conjunctions

To assimilate the knowledge of the conjunctions learnt indirectly so far

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	15	20	20	20	5

C – Project +Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für
Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 301 SPANISH – III

Course Code: BAR 346 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire knowledge of the Set/definite expressions (idiomatic expressions) in Spanish language and to handle some Spanish situations with ease.

Course Contents:

Module I

Revision of earlier semester modules

Set expressions (idiomatic expressions) with the verb Tener, Poner, Ir.

Weather

Module II

Introduction to Gustar…and all its forms. Revision of Gustar and usage of it

Module III

Translation of Spanish-English; English-Spanish. Practice sentences.

How to ask for directions (using estar)

Introduction to IR + A + INFINITIVE FORM OF A VERB

Module IV

Simple conversation with help of texts and vocabulary

En el restaurante

En el instituto

En el aeropuerto

Module V

Reflexives

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	15	20	20	20	5

C – Project +Presentation

I – Interaction/Conversation Practice

Text & References:

Español, En Directo I A

Español Sin Fronteras -Nivel Elemental

FLJ 301 JAPANESE - III

Course Code: FLJ 301 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse in the language with the help of basic verbs and to express themselves effectively and narrate their everyday short encounters. Students are also given projects on Japan and Japanese culture to widen their horizon further.

Note: The Japanese script is introduced in this semester.

Course Contents:

Module I: Verbs

Different forms of verbs: present continuous verbs etc

Module II

More Adverbs and adverbial expressions

Module III: Counters

Learning to count different shaped objects,

Module IV: Tenses

Past tense, Past continuous tense.

Module V: Comparison

Comparative and Superlative degree

Module VI: Wishes and desires

Expressing desire to buy, hold, possess. Usage in negative sentences as well.

Comparative degree, Superlative degree.

Module VII: Appointment

Over phone, formal and informal etc.

Learning Outcome

Students can speak the language and can describe themselves and situations effectively They also gain great knowledge in terms of Japanese lifestyle and culture, which help them at the time of placements.

Methods of Private study /Self help

Handouts, audio-aids, and self-do assignments.
Use of library, visiting and watching movies in Japan and culture center every Friday at 6pm.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	15	20	20	20	5

C – Project +Presentation

I – Interaction/Conversation Practice

Text & References:

Text:

Teach yourself

Japanese References:

Shin Nihongo no kiso 1

FLC 301 CHINESE – III

Course Code: FLC 301 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Foreign words are usually imported by translating the concept into Chinese; the emphasis is on the meaning rather than the sound. But the system runs into a problem because the underlying name of personal name is often obscure so they are almost always transcribed according to their pronciation alone. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I	**Drills** **Dialogue practice** **Observe picture and answer the question.** **Introduction of written characters.** **Practice reading aloud** **Practice using the language both by speaking and by taking notes.** **Character writing and stroke order**
Module II	**Measure words** **Position words e.g. inside, outside, middle, in front, behind, top, bottom, side, left, right, straight.** **Directional words – beibian, xibian, nanbian, dongbian, zhongjian.** **Our school and its different building locations.** **What game do you like?** **Difference between "hii" and "neng", "keyi".**
Module III	**Changing affirmative sentences to negative ones and vice versa** **Human body parts.** **Not feeling well words e.g. ; fever, cold, stomach ache, head ache.** **Use of the modal particle "le"** **Making a telephone call** **Use of "jiu" and "cal" (Grammar portion)** **Automobiles e.g. Bus, train, boat, car, bike etc.** **Traveling, by train, by airplane, by bus, on the bike, by boat.. etc.**
Module IV	**The ordinal number "di"** **"Mei" the demonstrative pronoun e.g. mei tian, mei nian etc.** **use of to enter to exit** **Structural particle "de" (Compliment of degree).** **Going to the Park.** **Description about class schedule during a week in school.** **Grammar use of "li" and "cong".** **Comprehension reading followed by questions.**
Module V	**Persuasion-Please don't smoke.** **Please speak slowly** **Praise – This pictorial is very beautiful** **Opposites e.g. Clean-Dirty, Little-More, Old-New, Young-Old, Easy-Difficult, Boy-Girl, Black-White, Big-Small, Slow-Fast … etc.** **Talking about studies and classmates** **Use of "it doesn't matter"** **Enquiring about a student, description about study method.** **Grammar: Negation of a sentence with a verbal predicate.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	15	20	20	20	5

C – Project +Presentation

I – Interaction/Conversation Practice

Text & References:

"Elementary Chinese Reader Part I, Part-2" Lesson 21-30

FOURTH SEMESTER

Module I: Complexities of Architectural Design

Module II: Creative Exercise

Module III: Site Study and Analysis

Module IV: Design Considerations

Module V: Built form and Building design development

Module VI: Presentation

BAR 401 Architectural Design – IV

Course Code: BAR 401 **Credit Units: 06** **Teaching hours: 06**

Course Objective:

To learn context based design processwith increasing functional and aesthetics complexity and larger area incorporating cost effective building technology and earthquake resistant structure in relation to the site planning consideration. Understanding the theoretical and practical aspects of building design as per the specified scale and complexity with a three dimensional form development

Course Contents:

	Organization of functional activities in relation to user requirements and the site co-Relating the system of horizontal and vertical circulation, open spaces, parking etc. Responding to socio-economic factors such as income levels, privacy, territoriality, interaction etc.
	Creative functional integration exercise for the better understanding of the design problem and also to enhance the interest and thought process for solving a particular problem amongst students.
	Site and surroundings survey- location, local climatic conditions, topography, existing landscape, socio- cultural impact on design. Study of locally available material, technology and resources. Local Architectural examples and features. Importance of connectivity of on the site and of the site features. **Considering materials, structure and services in relation to the design proposal and adopting the cost effective &earthquake resistant techniques. Integration of plan forms and three dimensional compositions.** **Detailing for the physically handicapped and the elderly.**
	Concept development, detailed study of functions, circulation and connectivity with overall planning. Study of relationship of built and open

	spaces, interlinking of various activities, volumetric analysis, Façade treatment- Interior and exterior. Design evolution from historical background and development. Overall design development till last stage
	Enhancement of presentation skills using multiple media. Creation of 3-D models based on the design.
Module VII: Design Exercise	**The exercise based on the above modules may be Institutional- Government or Private/ Religious/ Residential, covering approximately a site area of 4000/5000 sqm. and following the local building bye laws. Eg:**

Embassy complex	**Library complex**	**Club building**
Guest house	**Motel**	**Residential school**
Religious complex	**Museum**	**Midway complex**

Site planning need to be an important aspect of the design problems.Preparation of a block model and a detailed model of a block shall be essential

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Architectural Graphics, C. Leslie

Martin Interior Design, Ahmed Kasu

Architectural Graphics, Ching

Frank References:

A.J. Metric Handbook, Jan Bilwa and Leslie Fair weather

Planning – the Architect's handbook, E and E.O.

Neufert's Architect's data

Time Saver standards for building types, Joseph D.C. and John Callender.

BAR 402 Materials & Construction Technology – IV

Course Code:BAR 402 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To familiarize students with different metals such as aluminum and steel and copper in construction techniques for use of building materials in building works.

Course Contents:

Module I: Steel

Study of steel as building material: types/ properties and treatment and various uses.

Structural, Visual and textural properties,Varieties and application of steel and other metals and alloys

Module II: Foundation columns& trusses.

Foundation such as Grillage foundation, Structural Steel columns and space frames, type and details of Structural steel trusses, details of geodesic domes etc.

Roofing: Roof covering in G.I. Asbestos andfiber Sheets etc.

Module III: Staircases:

Metal staircase: Types and construction detail/fire escape staircase.

Module IV: steel door and window

Steel door and window: types and construction detail, standard door/ windows sections, fire doors Types of Rolling Shutters and their construction detail.

Module V: Aluminum

Aluminum as building material: properties and treatment, Construction and fixing details used for aluminum doors and windows, their applications, types, pricing.

Market survey of available materials: technology and hardware.

Exercises: presentation of seminars, preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Building construction W.B.McKay

Building construction R Berry

Building construction Chudley

Building construction Francis D.K. Ching.

BAR 403 Structural Design & Systems – IV

Course Code: BAR 403 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To understand the materialspecification & its physical, engineering properties.

To help the students for understanding the mix design process by IS codes & laboratory experiments.

Course Contents:

Module I: Cement

Definition, Ingredients, Compounds, Properties, Hydration, Types and applications, manufacturing process of cement. Workability & durability Tests of cement

Module II: Aggregate

Classification, Sp. Gravity, Bulk density, moisture contents, Bulking of fine aggregates, fineness modulus, Practical size distribution. Laboratory tests for aggregate particles.

Module III: Concrete& its mix design

Definition, Advantages/ disadvantages, relevant IS codes, workability, Compressive strength, Flexural strength, factors affecting strength, nominal and designed mix concrete.Laboratory & field tests to check the quality of concrete in terms of workability & durability.

Module IV: Soil Mechanics & Foundation engineering

Importance of the subject, Types of Soils, Phases, various Index properties of soil, relationships, simple numerical Classification of soil, engineering properties of soil, testing of soil.

Various types of foundations,Bearing capacity of soil, field tests, plate load & penetration test, Effect of water level, Failure of foundation systems, Design procedures for simple load bearing foundations., Terzagi's theory

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

- **Building Construction – Materials, M.V.**
- **Naik Strength of Materials, Khurmi R. S.**
- **Applied Mechanics and Strength of Materials, Khurmi**
- **R. S. Civil Engineering Handbook, P.N. Khanna**

Concrete technology by M.S. Shetty.

Soil mechanics & foundation engineering by K.R. Arora.

References:

Elements of Structure, Morgan

Structures in Architecture, Salvadori

- **Building Construction, Mackay WB Vol. 1-**
- **4 Construction Technology, Chudley Vol.**
- **1-6 Elementary Building Construction,**
- **Mitchell Structure and Fabric, Everet**

BAR 404 Graphics Skills – IV (Computer Aided)

Course Code: BAR 404 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To train students in drafting and presentation techniques using computer. To learn drawing 3D-drawings through computers and taking advantage of it for rendering and presentations of the views. Learning interface of rendering softwares with autocad.

Course Contents:

Module I: Introduction to (3-D) software: Exterior

Introduction to basic 3-D software of architectural significance viz. SketchUp and AutoCAD-3D and their basic usage (creating conceptual exterior and views of an Architectural Project).

Module II: Introduction to (3-D) software: Interior

Creating deatiled Interior and views of a 3D project using SkechUp.

Module III: Introduction to (3-D) software: Rendering

Use of V-Ray for Rendering 3D models of SkechUp and their final editing in photoshop.

Module IV: Introduction to (3-D) software: Animation

Use of Lumion for creating animation (walkthrough) of 3D models of SkechUp.

Module V: Learning latest Building Information Modelling (BIM) soft wares (Revit: Elementary) Introduction to latest software of architectural significance viz. Revit and its basic usage. Creating basic/ simple Plan(s), Elevation(s) Section(s), view(s) of a small dwelling unit. The students shall also render the generated drawings/views in photoshop etc.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Manuals of Autocad – Autodesk Inc.

Computer graphics and design, Radhakrishnan

Inside Autocad--parker,denial& rice

Google SkecthUp user's guide.

Adobe Photoshop user guide/manual.

Google SketchUp for Interior Designers – Daniel John Stine

Rendering in SketchUp –

Daniel Tal V-ray user's Guide.

Lumion user's guide/manual.

Autodesk Revit user guide/manual.

Architectural Design with SketchUp – Alexander Schreyer

BAR 405 History of Architecture-IV

Course Code: BAR 405 **Credit Units: 02** **Teaching hours:2**

Course Objective:

Understanding the world architecture during the, Renaissance and Baroque Period; Study of specific Architectural characteristics and their origin in above-mentioned period.

Understanding the Modern and contemporary Architectural History From 19th Century to the present age, the development process, the change in Techniques and construction.

Course Contents:

Module I: Early Renaissance Architecture

Break with medieval churches for sources from Roman antiquity. Spatial centralization through simple addition of independent spatial elements. Use of elementary geometrical forms unified through symmetry and simple mathematical ratios. Reintroduction of anthropomorphic classical orders.Study of palazzos and development of centralized church form through specific examples from Italy.Mannerism and change.Study of Urban Historical changes after Renaissance.Italian Renaissance - The idea of rebirth and revival of art - Outline of the Architecture during the early Renaissance, High Renaissance and Baroque Periods - Features of a typical Renaissance palace, eg. Palazzo Ricardi, Study of the contribution of the following architects: Brunelleschi, Michaelangelo, Andrea Palladio, Example - St. Peter Rome,Villa capra in Vicenza.

Module II: High Renaissance Architecture-French and English Renaissance - architectural character in the classical & Rococo period - Example – Chateau de Chambord, Louvre,Paris – Domestic British architecture-Study of the works Sir Christopher Wren,& Inigo Jones, Example - St. Paul's Cathedral, London. Banqueting House, Whitehall..

Module III: Baroque Architecture and Neo-Classical Period

Dynamism and systemization of Baroque architecture vitality and spatial richness with underlying systematic organization.Definition of Neo-classic with taking few examples of the period. Study the buildings and structures relation to form, ratio, symmetry etc. Study of the different areas in France.

Module V: Industrial revolution and modern Architecture movements

Reasons for the evolution of Modern Architecture, origins-Neo Classicism-Enlightenment, Social revolutions, Historiography, Revivalism-Works of Soane,Ledoux, Boulee Durrand & Schninkel. Industrial revolution and its impact – Emergence of new building typologies-New Materials and Technologies : history of steel ,glass and concrete.Arts & Crafts movement in Europe and America; Art nouveau, and the works of Horta, Guimard, Gaudi and Macintosh; Organic Architecture -Early works of F.L.Wright.Chicago school; Art deco Architecture in Europe and America.

Module V : Colonial architecture

Monumental buildings of Early colonial period – Examples – St.Pauls Cathedral, Calcatta & Bombay Town hall –Architectural character of Indo-Saracenic and Classical revival –University of Madras Senate House & Victoria Memorial hall, Calcatta – Later Colonial period – Contribution of Edwin Lutyens & Herbert Baker to the lay-out and Architecture of New Delhi – Rashtrapathi Bhavan & Parliament House.

Module VI: Modern Architecture (19th century to Present Era)

The evolution of Modern Architecture, Works of Architects like Le Corbusier, Frank Lloyd Wright, Louis Sullivan, Antoni Gaudi, Ludwig Mies Van Der Rohe,.

Modern Techniques and New Materials Introduced, Important Building of the era, Introduction of skyscapers and new modern buildings.Works of Peter Behrens, Tony Garner, Walter Gropius, Eugene Freyssinet, Robert Maillart.Model of Glass Sky-Scraper, German Pavilion, Tugendhat house, Illinois Institute of Technology, Fransworth House, National Theatre of Mannheim, Cullinan Wing Museum of Fine Arts.

Module VII: Post modernism

Futurism, Constructivism, Expressionism, Modernism reaches critical mass, Urban design and mass housing, Mid-Century reactions (Modernism), Brutalism and monumentality, High-tech architecture, Postmodern architecture, Neomodern architecture, Neo-Futurism architecture, New Urbanism and New Classical Architecture.Introduction to Conservation and Restoration.

Site Visits and Presentation exercise may be combined with local educational tour, recommended by the subject teacher to be organized at the end of the semester after the examinations

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

- **"Glimpses of World History", Pt. Jawahar Lal Nehru**
- **"Ubrban Pattern", A.B. Gallion**
- **"The History of Architecture", Sir Bannister Fletcher**
- **"Buddist and Hindu Architecture" in India, Satish Grover**
- **Landscape Design: A Cultural and Architectural History" Elizabeth Barlow Rogers**
- **The great age of world architecture –By G K Hiraskar**

References:

- **History of Architecture, J E Swain**
- **History of Architecture, Dora Couch**
- **A study of History, Almond Toynbee**
- **Traditions in Architecture, Dora Couch**

BAR 406 Building Services – III (Acoustical system)

Course Code: BAR406 **Credit Units: 02** **Teaching hours: 02**

To acquaint students about acoustical requirements and consideration for building design right from residential to the theatre type of building.

Course Contents:

Module I: Terminology in Acoustics

Sound and its properties, audible sound, intensity and loudness, frequency and pitch, qualityReflection, absorption, transmission, diffusion, diffraction of sound ; Common acoustical defects: Echo, sound-foci, dead spots, sound shadows, resonance, insufficient loudness, external noise, reverberation and reverberation time Module II: Acoustic materials

Sound absorbing materials and their applications– description and characteristics, types of absorbents and reflectors and their application, Market survey and sample collection.

Module III: Acoustical design case studies

Study of existing designs to understand shapes/spaces and integration of acoustical equipment in the design. Module IV: Noise control

Environmental noise control: noise sources, airborne and structure-borne noise, transmission of noise, methods of environmental noise control, control of mechanical noise and vibrations, General idea of sound insulation. Noise control in specific types of buildings like – auditoriums, residential buildings, hotels, school, hospitals, offices, libraries

Module V: Design exercise

Acoustical design or case study of existing building such as auditorium, recording studio, theatre, cinema halls, hospitals or a multistory office building.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Templeton, Duncan & Saunders, David, "Acoustic Design", The Architectural Press, London,1987.

Templeton (ed.), "Acoustics in the Built Environment", Butterworth, London, 1993.

NBC of India

K.A.Siraskar-Acoustics in building design

Building Construction - B.C. Punmia

Building Construction - Rangawalla

Building Construction and Materials – Gurcharan Singh Architectural Acoustics: E. David

An Introduction to Building Physics: Narsmhan

Fundamentals of acoustic by Kinsler, Lawrence E and others Enviromental acoustic by Doelle, Leslie L.

Knudson and Harris, `Acoustical Designing to Architecture'.

David Egan, `Architectural Acoustics' Ross publishers, 2008.

Ducan Templeton et all 'Acoustics in the Built Environment, Architectural press1997

BAR 407 Study Tour, NASA&other Academic/Professional activities-I (evaluation)

Course Code: BAR 407 **Credit Units: 01** **Teaching hours: NIL**

Guidelines:

Students shall visit different sites and prepare a report covering different aspects
The report shall be evaluated and marks shall be added in even semester, for study tour.
It shall be related to the studies done in history of architecture, art & culture and Architecture Design of current & pervious semester.
Student will be marked for work done for national / Zonal convention of NASA (National Association of student of architecture) & any other activity related to NASA. Participation of every student will be compulsory in activities related to NASA though every student may not be attending the same. Report will be submitted for evaluation of NASA work.
Marking will be done for work done for NASA, in current & pervious semester.
Evaluation for all extracurricular activities will be done in this course (for current & pervious semester).

The Layout Guidelines for the Report

A4 size Paper
Font: Arial (10 points) or Times New Roman (12 points)
Line spacing: 1.5
Top and bottom margins: 1 inch/ 2.5 cm; left and right margins: 1.25 inches/ 3 cm The report can be hand written as well
The report shall be properly bound and submitted individually.

Assessment Scheme:

Continuous Evaluation:	**50% (Based on punctuality, regularity of work.)**
Final Evaluation:	**50% (Based on the Documentation in the file/ presentation/ viva)**

BAR 408 Architectural Climatology

Course Code:BAR 411 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To acquaint students to various concepts of climate analysis and its use in Architecture.

To familiarize students with human thermal comfort as an essential function of building. Students shall learn using the natural climatic elements to achieve their maximum utilization for the minimum dependence on the artificial means.

Course Contents:

Module I: Introduction to Climate

Importance of climate in architecture, Factors affecting climate.

Elements of climate- Solar radiation, temperature, wind, humidity and precipitation and their measurement.

Module II: Tropical Climate

Climatic zones, Characteristics of tropical climate, macroclimate and microclimate.

Module III: Human thermal comfort

Study of body's heat production and heat loss, comfort zone, bio-climatic chart and effective temperature, Isopleths. Solar passive techniques: cooling and heating.

Module IV: Day light and shading devices

Natural light, glare, day light factor and day lighting in tropics.

Method of recording the position of sun in relation to earth, solar chart, shadow angle protractor and its application in design of shading devices.

Module V: Orientation, Ventilation and air movement

Requirement, size and position of openings, air flow pattern inside and outside buildings.

Orientation of buildings in relation to sun and wind.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Manual of tropical housing and building,
Koenisberger Solar power, Behling
The climatic data handbook, Bhargava and Chand

References:

Climate responsive Architecture, Arvind
Krishan Architecture as response, Gree.

Domain Electives – II

BAR 409 Bamboo Architecture

Course Code: BAR 409 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize the students with sustainable building material bamboo and its application in present technological change. The student shall learn the use of Bamboo for various kind of construction and appliacation.

Course Contents:

Module I: Introduction to Bamboo as a Material

Introduction to bamboo and its different types and properties.General uses of Bamboo.Discussing bamboo growth and forms. Studying about bamboo as a material since history and its application being a versatile and fibrous material. Botanical Classification, Types based on Geographical distribution, climatic and soil conditions. Difference between Bamboo, Cane and Reed. Comparison of bamboo with wood. Harvesting, Storage and Drying of Bamboo. Active and Passive methods of Bamboo Preservation and Treatment. Working with Bamboo. Cutting, Sawing and Scorch Drilling of Bamboo. Types of Joints in Bamboo Construction. Shaping and Bending of Bamboo. Treatment of Bamboo Surface using Bleaching and Dyeing methods.

Module II: Bamboo as a Construction material.

Studying the grading of bamboo and its selection and size of bamboo for structure. The different traditional tools used for construction with their application. All the joinery in the structure based on types of lashing and types of shear keys.

Bamboo Reinforced Foundation. Bamboo Flooring. Bamboo Trusses & Roof Skeleton. Bamboo Shingles.Bamboo Walls. Bamboo Doors & Windows. Bamboo Furniture.Bamboo as a Scaffolding material. Bamboo Footbridges and Bridges. Reed Boards & Bamboo Ply.

Construction details in Bamboo.Types of Binding ,Joints & Connections. Various steps involved-required sizes of members-methods of joining bamboo for various applications.

Module III: Building System & Component

Studying bamboo treatment for longer life of shelter.Analyzing the consideration for site selection.Deatiling the construction of bamboo substructure and superstructure plus covering envelopewith reference to latest technology.

Module IV: Bamboo products

Bamboo products such as Mats (Chatai), laminates, furniture, flooring, lampshades, furniture etc.

Module V: Live Exercise of Documentation, Workshop & Site Visit

Designing a bamboo structure residential/institutional/recreational etc. based on new technologies and innovations in the field. Case study of Bamboo Houses and Buildings.

Site visit to Built environments that have used Bamboo as a Construction material especially in Assam, Meghalaya, Auroville and Kerala.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

The Book of Bamboo by David Farrelly

Building with Bamboo: A Handbook by Jules J.A. Jansen Bamboo Style by Gale Beth Goldberg

Bamboo by Susanne Lucas

Bamboo Architecture & Design (59 Case Studies) by Eduard Broto

New Bamboo: Architecture and Design by Marcelo Villegas

BAR 410 Architecture Documentation

Course Code: BAR 410 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize the students with various aspects, issues and considerations related to the documentation of architecture and its characteristics so that its heritage and inherent values can be identified and recorded. Course Contents:

Module I: Introduction to Architectural Documentation

Introduction to documentation of historical buildings includes not only measured photographic survey, but also surveying of the qualities of building spaces and their elements. Identification and understanding the use and purpose of the documentation.

Module II: Methodology

Detailing the purpose, scaled drawings, photographic documentation, visual analysis, classification and mapping of the spaces and their elements. The originality of these spaces and elements are evaluated within the frame of research results that are previously published, site surveys made. Use of modern equipment such as 'CANVAS' and its interface with I-pad and AutoCAD etc to be understood.

Module III: Analysis

Visual analysis consisting of analysis of spatial element and architectural elements need be understood. The spaces grouped according to their functions and the elements grouped according to their types. Visual analysis of onsite elements, outside elements need to be recorded. The context of the building need to be understood and recorded.

Module IV: Evaluation of characteristics

Distinguishing the modern with traditional architecture in terms of elements, details etc. Sketching and tabulating the spatial characteristics and their types

Module V: Compilation and Assessment

Classification and comparison is an effective way to decipher architectural characteristics of a historical Building with its originalities and alterations. The compilation should be as realistic as possible without the opinion of the compiler to retain the authenticity of the project.

NOTE-Students may be assigned a case study to assess the understanding of the subject.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

References:

Glenn E. Wiggins, Manual of Construction Documentation: An Illustrated Guide to Preparing Construction Drawings, 1989, Whitney Library of Design

John H. Stubbs, Robert G. Thomson, Architectural Conservation in Asia: National Experiences and Practice

Wiley, Landscape Architecture Documentation Standards: Principles, Guidelines, and Best practices, 2016, John wiley & sons inc.

Architectural Heritage, New Technologies in Documentation: Council of Europe, 1990

BAR 411 Barrier free Architecture (Enable Design)

Course Code: BAR 411 **Credit Units: 02** **Teaching hours: 02**

Course Objectives: The objective of course is to learn the principles of barrier free designand concepts of universal design. It Provides an idea about barrier free construction principles in buildings while understanding of the key aspects and systems of specially able persons built space in architecture.

Course Contents

Module I: Special Abilities

Understanding the different human imparities such as visual, mobility and hearing and also understanding the abilities of such differently able persons. To understand the architectural requirements of such persons.

Module II: Introduction to Architecture for specially able

Defining the basic concepts of barrier free design, need for barrier free concepts in architecture, concepts of universal design and types of disabilities. Design principles for barrier free architecture and accessibility for all.

Module III: Barrier free elements for outdoors and Urban Design

Design elements outside the building like curb ramps, pedestrian crossing, public toilets, and parking, signage, flooring and street furniture. Case examples of Barrier free architecture in India and across the globe. To study the anthropometrics and dimensions of mobility devices, special fixtures for barrier free design. Barrier free construction materials and dimensions for flooring, walls, doors, windows, staircases, elevators, toilets, entrances and corridors.

Module IV: Laws

Knowledge of different laws prevailing within India and in other countries. Understanding implication of different laws on design of spaces.

Module V: Case Study, Presentation & Design elements

Barrier free architecture in Public Buildings – dimensions and standards. Case Study of Barrier free elements in Public buildings, Photographic documentation and Presentation. Incorporation of barrier free elements in project being pursued in architectural design.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Guidelines and Space Standards for Barrier Free Built Environment for Disabled and Elderly Persons – Central Public Works Department, Ministry of Urban Affairs & Employment, India, 1998

IS – 4963 (1987), Recommendations for buildings and facilities for Physically Handicapped

Barrier-Free Design: Principles Planning, Examples, by Oliver Heiss, Christine Degenhardt, Johann Ebe (Birkhauser Architecture, 2010)

BCS 401 Communication Skills – II

Course Code: BCS 401 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To teach the participants strategies for improving academic reading and writing.

Emphasis is placed on increasing fluency, deepening vocabulary, and refining academic language proficiency.

Course Contents:

Module I: Social Communication Skills

Small Talk

Conversational English

Appropriateness

Building rapport

Module II: Context Based Speaking

In general situations

In specific professional situations

Discussion and associated vocabulary

Simulations/Role Play

Module III: Professional Skills

Presentations

Negotiations

Meetings

Telephony Skills

Examination Scheme:

Components	CT1	CT2	CAF	V	GD	GP	A
Weightage (%)	20	20	25	10	10	10	5

CAF – Communication Assessment File

GD – Group Discussion

GP – Group Presentation

Text & References:

Essential Telephoning in English, Garside/Garside, Cambridge Working in English, Jones, Cambridge

Business Communication, Raman – Prakash, Oxford

Speaking Personally, Porter-Ladousse, Cambridge

Speaking Effectively, Jermy Comfort, et.al, Cambridge

Business Communication, Raman – Prakash, Oxford

BSS 401 Behavioral Science – IV (Relationship Management)

Course Code: BSS 401 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To understand the basis of interpersonal relationship

To understand various communication style

To learn the strategies for effective interpersonal relationship

Course Contents:

Module I: Understanding Relationships

Importance of relationships

Role and relationships

Maintaining healthy relationships

Module II: Bridging Individual Differences

Understanding individual differences

Bridging differences in Interpersonal Relationship – TA

Communication Styles

Module III: Interpersonal Relationship Development

Importance of Interpersonal Relationships

Interpersonal Relationships Skills

Types of Interpersonal Relationships

Module IV: Theories of Interpersonal Relationships

Theories: Social Exchange, Uncertainty Reduction Theory

Factors Affecting Interpersonal Relationships

Improving Interpersonal Relationships

Module V: Impression Management

Meaning & Components of Impression Management

Impression Management Techniques

Impression Management Training-Self help and Formal approaches

Module VI: End-of-Semester Appraisal

Viva based on personal journal

Assessment of Behavioural change as a result of training

Exit Level Rating by Self and Observer

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)	VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25

Text & References:

Vangelist L. Anita, Mark N. Knapp, Inter Personal Communication and Human Relationships: Third Edition, Allyn and Bacon

Julia T. Wood. Interpersonal Communication everyday encounter

Simons, Christine, Naylor, Belinda: Effective Communication for Managers, 1997 1st Edition Cassell

Goddard, Ken: Informative Writing, 1995 1st Edition, Cassell

Harvard Business School, Effective Communication: United States of America

Foster John, Effective Writing Skills: Volume-7, First Edition 2000, Institute of Public Relations (IPR)

Beebe, Beebe and Redmond; Interpersonal Communication, 1996; Allyn and Bacon Publishers.

FOREIGN LANGUAGE 401

FLF 401 FRENCH - IV

Course Code: FLF 401 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students:

To develop strategies of comprehension of texts of different origin To present facts, projects, plans with precision

Course Contents:

Module C: pp. 104 – 139 : Unités 8,9

Contenu lexical :Unité 8 : Découvrir le passé

1. **parler du passé, des habitudes et des changements.**
2. **parler de la famille, raconter une suite d'événements/préciser leur date et leur durée.**
3. **connaître quelques moments de l'histoire**

Unité 9: Entreprendre

1. **faire un projet de la réalisation: (exprimer un besoin, préciser les étapes d'une réalisation)**
2. **parler d'une entreprise**
3. **parler du futur**

Contenu grammatical:

1. **Imparfait**
2. **Pronom « en »**
3. **Futur**
4. **Discours rapporté au présent**
5. **Passé récent**
6. **Présent progressif**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre: Campus: Tome 1

FLG 401 GERMAN - IV

Course Code: FLG 401 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany.Introduction to Advanced Grammar Language and Professional Jargon

Course Contents:

Module I: Present perfect tense	**Present perfect tense, usage and applicability** **Usage of this tense to indicate near past** **Universal applicability of this tense in German**
Module II: Letter writing	**To acquaint the students with the form of writing informal letters.**
Module III: Interchanging prepositions	**Usage of prepositions with both accusative and dative cases** **Usage of verbs fixed with prepositions** **Emphasizing on the action and position factor**
Module IV: Past tense	**Introduction to simple past tense** **Learning the verb forms in past tense** **Making a list of all verbs in the past tense and the participle forms**
Module V: Reading a Fairy Tale	**Comprehension and narration** **Rotkäppchen** **Froschprinzessin** **Die Fremdsprache**
Module VI: Genitive case	**Genitive case – Explain the concept of possession in genitive Mentioning the structure of weak nouns**
Module VII: Genitive prepositions	**Discuss the genitive propositions and their usage: (während, wegen, statt, trotz)**
Module VIII: Picture Description	**Firstly recognize the persons or things in the picture and identify the situation depicted in the picture;** **Secondly answer questions of general meaning in context to the picture and also talk about the personal experiences which come to your mind upon seeing the picture.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 401 SPANISH - IV

Course Code: FLS 401 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire working knowledge of the language; to give them vocabulary, grammar, voice modulations/intonations to handle everyday Spanish situations with ease.

Course Contents:

Module I

Revision of earlier semester modules

Introduction to Present Continuous Tense (Gerunds)

Module II

Translation with Present Continuous Tense

Introduction to Gustar, Parecer, Apetecer, doler

Module III

Imperatives (positive and negative commands of regular verbs)

Module IV

Commercial/business vocabulary

Module V

Simple conversation with help of texts and vocabulary

En la recepcion del hotel

En el restaurante

En la agencia de viajes

En la tienda/supermercado

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Español Sin Fronteras (Nivel – Elemental)

FLJ 401 JAPANESE - IV

Course Code: FLJ 401 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to comfortably interact using basic Japanese.
Note: Teaching is done in roman as well as Japanese script, students will be taught katankana (another form of script) in this semester i.e. to be able to write all the foreign words in Japanese.

Course Contents:

Module I

Comparison using adjectives, making requests

Module II

Seeking permission

Module III

Practice of conversations on:

Visiting people, Party, Meetings, after work, at a ticket vending machine etc

Module IV

Essays, writing formal letters

Learning Outcome

Students can speak the language describing above-mentioned topics. Methods of Private study /Self help

Handouts, audio-aids, and self-do assignments, role-plays.
Students are also encouraged to attend Japanese film festival and other such fairs and workshops organized in the capital from time to time.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Text:
Teach yourself Japanese

References:

Shin Nihongo no kiso 1

FLC 401 CHINESE – IV

Course Code: FLF 401 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

How many characters are there? The early Qing dynasty dictionary included nearly 50,000 characters the vast majority of which were rare accumulated characters over the centuries. An educate person in China can probably recognize around 6000 characters. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I	**Dialogue Practice** **Observe picture and answer the question** **Pronunciation and intonation** **Character writing and stroke order.** **Electronic items**
Module II	**Traveling – The Scenery is very beautiful** **Weather and climate** **Grammar question with – "bu shi …. Ma?"** **The construction "yao … le" (Used to indicate that an action is going to take place) Time words "yiqian", "yiwai" (Before and after).** **The adverb "geng".**
Module III	**Going to a friend house for a visit meeting his family and talking about their customs.** **Fallen sick and going to the Doctor, the doctor examines, takes temperature and writes prescription.** **Aspect particle "guo" shows that an action has happened some time in the past.** **Progressive aspect of an actin "zhengzai" Also the use if "zhe" with it.** **To welcome someone and to see off someone …. I cant go the airport to see you off…** **etc.**
Module IV	**Shipment. Is this the place to checking luggage?** **Basic dialogue on – Where do u work?** **Basic dialogue on – This is my address** **Basic dialogue on – I understand Chinese** **Basic dialogue on – What job do u do?** **Basic dialogue on – What time is it now?**
Module V	**Basic dialogue on – What day (date) is it today?** **Basic dialogue on – What is the weather like here.** **Basic dialogue on – Do u like Chinese food?** **Basic dialogue on – I am planning to go to China.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

"Elementary Chinese Reader, Part-2" Lesson 31-38

FIFTH SEMESTER

BAR 501 Architectural Design –V

Course Code: BAR 501 **Credit Units: 08** **Teaching hours: 08**

Course Objective:

To familiarize the students on context based design problem considering Energy Efficient buildings and planning. Understanding the theoretical and practical aspects of building design as per the different energy efficient details and technology. Integration of services in architectural designs. Integration of services in Architectural design.

Course Contents:

Module I: Introduction and Data collection	**Introduction to the topic, Data collection- Primary and secondary, Case Studies- Primary and secondary (study of live projects and analysis presentation). User requirement analysis, research for various kind and types of energy efficiency conservation systems and technology with their applications in the building industry**
Module II: Site Study and Analysis	**Site and surroundings survey- location, local climatic conditions, topography, existing landscape, socio- cultural impact on design. Study the site potentials in term of energy conservation and natural conditions those could be used in designing energy efficient building. Study of locally available material, technology and resources helpful in the energy conservation technology. Integration of onsite and offsite developments.**
Module III: Integration of function	**Integration of function: movement, climate, acoustics, structure and services, Landscaping, Building type character into the building and group of buildings.**
Module IV: Built form and design development for energy efficient building	**Concept development, detailed study of functions, circulation and connectivity with overall planning. Study of relationship of built and open spaces, interlinking of various activities, volumetric analysis, Façade treatment- Interior and exterior. Design evolution from historical background and development and Overall design development till last stage keeping energy conservation techniques in mind. Both in architectural and planning design.**
Module V: Presentation	**Enhancement of presentation skills using multiple media. Creation of 3-D models based on the design. Preparation of virtual models & interiors.**
Module VI: Design Exercise	**The exercise based on the above modules may be corporate office/ hotel/ resort / software technology park- covering approximately a site area of 10,000 to 15,000 sqm. Following the local building bye laws. eg:**

Healthcare building **Multistory office complex** **Office complex with residential**
Hotel **Factory building complex** **accommodation**
Recreation-Resort **Shopping Mall** **large institutional areas**

Submission must include a model and views along with complete drawings.

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Text & References:

Text:
Architectural Graphics: C. Leslie Martin
Mastering AutoCAD: George Omura
Interior Design: Ahmed Kasu
Architectural Graphics – Ching Frank
Engineering Drawing – N.D. Bhatt

References:
A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather
Architectural Graphic standards editor – Boaz Joseph
Planning – the Architect's handbook, E and E.O. Neufert's Architect's data
Time Saver standards for building types, Editor Joseph D.C. and John Callender.

BAR 502 Materials & Construction Technology – V

Course Code: BAR 502 **Credit Units: 03** **Teaching hours: 04**

Course Objective:
To familiarize student with different finishing materials and their use in building works.
Course Contents:
Module I: Flooring and paving: type and construction detail

Soft and hard flooring Stone, Tile, Indian Pattern Stone (IPS) Flooring, Concrete pavers & Stamping, Wood, Epoxy, Vinyl, Carpets etc.

Classification, Manufacturing, Market availability and prices, Advantages/ Disadvantages, design and detailing etc.

Module II: False ceiling type and construction detail

POP, Gypsum board, Acoustic panels, Wood, Metal etc.- Classification, Manufacturing, Market availability and prices, Advantages/ Disadvantages, Design and detailing etc.

Module III: Exterior and interior finishes

Latest finishing materials and their applications in construction- ACP, PVC, Gypsum, Glass, Fiberglass, Glass bricks, Metals, Stone, Ceramics, Exposed brick work, Paints, POP, Polish, Varnishes

Module IV: Partition and paneling.

Partitions and Paneling, Cupboards/Cabinets in different materials

Module IV: Special Details

Sliding door, Folding door, Revolving Door, sliding and folding door with hardware and their combinations.

Details such as nosing/railing /grills/balusters in different materials etc.

Exercises: Field trips, market survey of available materials, technology and hardware, preparation of study reports and presentation of seminars, preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Building construction W.B.McKay
Building construction R Berry
Building construction Chudley
Building construction Francis D.K. Ching

BAR 503 Structural Design & Systems – V

Course Code: BAR 503 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To understand the Design of R.C.C. structures by using IS:- 456: 2000.

To help the students for design the structural members like:- beam, column & slabs by using IS:456:2000 (based on working stress method) & impliment in analytical software likes:- STAAD Pro V8i.

Course Contents:

Module I: Working stress method:-

Introduction, plain & reinforced concrete, objectives of structural design, Code recommendation for working stress method, stress- strain curve for ductility & brittle material, understanding the concept of elasticity. Behavior of concrete under compression & tension, creep & shrinkage of concrete, behavior in flexure.

Module II: Design of beams & one-way slabs:-

Introduction, requirements of flexural reinforcement, requirements for deflection control, Design of singly & doubly reinforced rectangular sections by using IS :- 456: 2000.

Module III: Design of two-way slabs:-

Design of wall- suspended two-way slabs, design of beam- supported two-way slabs, design of column-supported slabs, reinforcement details in column- supported two-way slabs.

Module IV: Design of Compression members:-

Introduction, estimation of effective length of a column, Code requirements on slenderness limits, minimum eccentricities & reinforcement, design of short column under- axial & uni-axial compression

Design of column under axial compression with biaxial loading, design of slender column.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Building Construction – Materials by M.V.
Naik Strength of Materials – Khurmi R. S.
Applied Mechanics and Strength of Materials – Khurmi
R. S. Civil Engineering Handbook – P.N. Khanna
R.C.C. Design – Khurmi, Punmia, Sushil
Kumar Design of Steel Structure – Negi
Structure in Architecture – Salvadori and
Heller Mechanics of materials – E. P. Popov
Reinforced concrete structures – R. Park and
T. Paulay Concrete technology- M.L. Gambhir
Design of reinforced concrete structures- N. Krishna Raju
Reinforced concrete design by:- S. Unikrishna pillai & devdas menon.
IS: 456- 2000
SP: 16- 1980

Elements of Structure by MORGAN
Structures in Architecture by SALVADORI
Building Construction by MACKAY WB Vol. 1-4
Construction Technology by CHUDLEY Vol. 1-6
Elementary Building Construction by MITCHELL

BAR 504 Graphics Skills – V (Computer aided)

Course Code: BAR 504 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To train students in drafting and presentation techniques using computers.

Course Contents:

Module I: Learning detailed 3D creation using Revit (Building Information Modelling (BIM) soft ware) Creating detailed 3D (Exterior & Interior) of an Architectural project and generating its Plan(s), Elevation(s) Section(s), view(s) a complete set of architectural drawings using Revit.

Module II: Learning 3D Rendering & Animation using Revit

Advanced 3D creation and rendering in Revit. Material application, Lighting, Camera setting, Background, Scenic development for still 3d images and their final editing in Photoshop etc.

Using Revit for developing 3D animation (walk through) for Architectural significance. Complete scenic development, material and lighting as well as camera positioning for moving images. Saving and viewing animations.

Module III: Learning BIM software Revit for Complex forms/ shapes

Learning the creation of complex geometry (viz irregular lofty forms etc.) in Revit. Importing and exporting Revit file into other software. Use of Revit for preparing BOQ and for the final Documentation of a complete set of architectural drawings for a dwelling unit.

Module IV: Learning the use of other Advanced Software

Introduction and learning the basic use and importance of latest software like 3ds Max, eQUEST, Ecotect, Vasari for advance application.

Module V: Introduction to Parametric Modeling Software

Introduction to parametric modeling with the help of Rhino and Grasshopper.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Autodesk Revit user guide/manual.
Autodesk Revit Architecture: Eric
Wing eQuest user's Guide.
Autodesk Ecotect user's Guide.
Vasari user's Guide/manual.
Rhino user's Guide.
Grasshopper user's guide/manual.

References:

Architectural Rendering with V-Ray: Photorealistic Visualization – Markus Kuhlo, Enrico Eggert
Introducing 3ds Max 9: 3D for Beginners – DariushDerakhshani, Randi L. Derakhshani
Mastering Autodesk Revit Architecture 2014 – James Vandezande, Eddy Krygiel, Phil Read

BAR 505 Building Bye - Laws & Codes Practices

Course Code: BAR 505 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To study the development controls as applicable to building design.To acquaint the students to compulsory building bye-laws and permits.

Course Contents:

Module I: Introduction to Building Bye Laws

Introduction to Building Bye Laws and regulation, their need and relevance, general definitions such as building height, building line, FAR, Ground Coverage, set back line et all. Role of various statutory bodies governing building works like development authorities, municipal corporations etc. Introduction to Master Plan and understanding various land uses like institutional, residential etc. and related terminology

Module II: Application of Building Bye Laws

Interpretation of information given in bye laws including ongoing changes as shown in various annexure and appendices. Application of Bye Laws like structural safety, fire safety, earthquake safety, basement, electricity, water, and communication lines in various building types.

Module III: Introduction to Codes of Practice

Introduction to various building codes in professional practice emphasizing the importance of codes and regulations to protect public health, safety and welfare and to ensure compliance with the local authority

Module IV: Application of Codes of Practice

Understanding the applications of various codes as per various building types. Conducting a comprehensive code search process and representing the above analysis by preparing detailed code data sheets as applicable in the domain which has been chosen for the research.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Delhi Building Bye-Laws – Nabhi
Publications D.D.A. – Delhi Master Plan
Various IS Codes

BAR 506 Building Services – IV (Fire safety, security and mechanical System)

Course Code: BAR 506 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To acquaint the student with the fire safety regulation and security systems to be adopted in the buildings. Study the development codes and bye-laws of fire safety regulations, and study about the different methods and materials for treatment in buildings for fire safety.

Course Contents:

Module I: Fire Safety

Introduction: basic understanding about fire, growth decay curve. Causes of fire in buildings, types of fire, spread of fire, production of smoke and poisonous gases. Fire safety and preventive measures.

Module II: Fire properties of materials

Basic fire properties of materials i.e. ignitability, combustibility, surface spread of flame, fire propagation, toxicity etc.: General behavior of materials, combination of fire retardant and non-combustible materials. Module III: By-laws for firefighting

Firefighting regulations with reference to National Building code. Fire escape, stairways and escape routes, dry and wet risers, Water demand for firefighting, storage tanks, fire hydrants etc.

Module IV: Fire extinguishing

Study of Fire detection systems, smoke detectors, heat detectors, fire alarms etc.Fire extinguishing systems, Unit fire extinguishers, Chemical and foam extinguishers, Chemical and foam extinguishers.

Module V: Advanced Security Systems

Communication systems in buildings, CCTV, conduits to accommodate the systems.Security and Surveillance. Remote control for security systems and automation

Module IV: Building automation

Introduction to building automation systems, components and application of BAS, Architectural implications and integration.Introduction to lift, escalator, travelers etc.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Fire Safety: National Building Code of India 1983, An Introduction to Building Physics: Narsmhan Fire Safety in Buildings by V.K. Jain

Brannigan, F. L. & Corbett, G. P. (2008). Brannigan's Building Construction for the Fire Service. Sudbury, MA: Jones & Bartlett Publishers.

Domain Electives – III

BAR 507 Building Appreciation

Course Code: BAR 507 **Credit Units: 02** **Teaching hours: 02**

Course objective:

The objective of the course is to introduce the students to the practice of appreciating architectural built forms.

Course contents:

Module I: Introduction

Introduction to building appreciation and analysis of the evolution of buildings and its necessity. Introduction also includes guidelines and parameters to appreciate any building.

Module II: Aesthetic Interpretation

The interpretive understanding of aesthetic experience provides with the opportunity to develop their interpretive skills and heighten their aesthetic responses to various building forms, building textures and building expressions. Analyze, interpret and respond to architectural examples done by architects from past and present. This also includes appreciation of historical works and background of previous era.

Module III: Historical Perspective

Examining historical perspectives help realize the need to understand the past and thoughtfully consider the future to contextualize current knowledge about buildings and their elements. Identify and describe appropriate systematic and scientific strategies to examine historical built forms and methods.

Module IV: Guidelines for Building Appreciation

Develop critical thinking skills, ability to reflect and explain the meanings of architectural works

Understand how architectural building works shape and reproduce social ideas, values and concerns and how they interact with and influence society, history and culture.

Note: Students shall be given an example of Building appreciation to record their experiences

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Kenneth Lindley, Appreciation of Architecture: Landscape and Building (C.I.L.) Paperback – February, 1972

Carol Davidson Cragoe, How to Read Buildings: A Crash Course in Architectural Styles, Rizzoli, 2008 Francis D.K. Ching , A Visual Dictionary of Architecture, Wiley, 1996

Kevin McCloud, Grand Designs Handbook: The blueprint for building your dream home, Collins , 2009

BAR 508 Energy Conservation Architecture

Course Code: BAR 508 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize students with principles, techniques and guidelines for planning and design of energy conserving architecture. Study of solar energy systems and other alternative sources of energy being used in architectural applications.

Course Contents:

Module I: Introduction

Classification and characteristics of energy resources, Use and exploitation of resources, Resource use in architecture / exploitation of resources for development, Resource shortage and constraint, Concepts and need for conservation, Renewable, non-renewable resources and alternate sources of energy. Need and necessity of energy conservation.

Module II: Energy conserving architecture

Principles of energy conservation, Pattern of energy use in buildings, Technologies and methods of conservation, Economic, technological and environmental implications. Ambient energy and lifecycle requirement of energy in different types of buildings. Use and possibility of alternate sources of energy.

Module III: Conservation of other resources

Conserving building materials, water, land etc. in architecture, methods of conservation and their implication.

Understanding the concept of zero energy buildings.

Module IV: Design of energy conserving architecture

Fundamentals of planning and design, Elements and principles of design, Study of design problems, Application of relevant principles for design solutions, Innovative and appropriate construction technologies. Use of landscaping elements in energy conservation.

Module V Students shall workout a practical exercise of converting one of their designs into energy conserving building.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:
Alternative Natural Energy Sources in Building Design: Davies and Schubert.
Design with nature: I. McHarg
The Ecological Context: H. McHale.

References:
Human Ecosystems: W. B. Jr. Clapham.
Review our dying planet: S. Devi.
Energy Conservation Standards: for building design, construction and operation, S. Fred Dubin.

BAR 509 Digital Architecture

Course Code: BAR 509 **Credit Units: 02** **Teaching hours: 02**

Module I: Digital Architecture

Introduction to Digital Architecture, Digital Architecture terminologies, digital theories and History of Digital Architecture, Difference between conventional design approach and Digital design process,

Module II: Digital Architecture software:

Introduce to digital Design Process, Software as design tools, Associative modeling, Concept of artificial intelligence, Application of expert system in architecture.

Module III: Digital Techniques in Architecture

Building Automation System, Current trend and innovation, Effect of building automation on functional efficiency, Components of Building Automation, Application of 3D printing machines and techniques.

Module IV: Parametric design:

Relation of Architecture and Algorithm, Basic Application of algorithmic techniques in design methodologies, coding principles, artificial life, material intelligence,

Module V: Design exercise of a digitally designed building.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text &References:

- **Contemporary Processes in Architecture – by Ali Rahim**
- **Digital Cities AD: Architectural Design – Prof. Neil Leach**
- **Performative Architecture : Beyond Instrumentality – by Branko Kolarevic**
- **Versatility and Vicissitude: Performance in Morpho-Ecological Design- by Michael Hensel**
- **Biosensors for environmental monitoring – by Ursula Bilitewski, Anthony Turner**
- **Biosensor principles and Application – by Loic J.Blum, Pierre R.Coulet**
- **Digital Tectonics – Prof. Neil Leach**
- **Contemporary techniques in Architecture – by Ali Rahim**
- **Digital Fabrications: Architectural and Material Techniques- by Lisa Ewamoto**
- **From control to design –by Michael Meredith**

Domain Electives – IV

BAR 510 Intelligent Buildings

Course Code: BAR 510 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To introduce the concept of intelligent buildings and to acquaint the student with the factors to be taken into consideration to build an intelligent building.

Course Contents:

Module I: Introduction to intelligent buildings

Concepts, purpose and scope of intelligent building

Module II: Building Automation System

Concept and application, Current trend and innovation, Effect of building automation on functional efficiency, Components of Building Automation, HVAC, electrical, lighting, security, fire-fighting; Integrated approach in design, maintenance and management system, Concept of artificial intelligence, Application of expert system in architecture.

Module IV: Artificial Intelligence

Introduction to artificial intelligent, intelligent behavior, Development of Artificial Intelligence, Concepts of Artificial Intelligence, Applications of Artificial Intelligence

Module IV: Expert System

Introduction to expert system, objectives, features and components of expert system, Applications of Expert Systems, benefits and limitations of Expert Systems

Module V: Intelligent Systems in Building

Intelligent HVAC, Intelligent lighting, intelligent security, Intelligent fire fighting, Intelligent openings, Intelligence with respect to telecommunications

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Intelligent Fuzzy Optimal Control of Building Structures – Engg. Str. V-20n3, March '98, pp. 184.
Intelligent Controller with Closing Problems for Building Systems International Conference, Proceeding, 1998.
Intelligent Component Health Monitoring System.
Integration of Communication Networks Automation in Construction, V-6n 5-^{3}

References:

Intelligent Building System for Airport, ASHRAE Journal V-39 N 11, Nov. '97 pp. 31-35
Maintenance System of Electrical Facilities Proceedings of the Annual Conference, 1997.

BAR 511 Vaastu in architecture

Course Code: BAR 511 **Credit Units: 02** **Teaching hours: 02**

Course Objectives:

To educate the students on VastuShastra so that our own built environment should be in harmony with the energy of the inmates living in it. To expose the students to the various theoretical and practical aspects of VastuShastra.To familiarize with the ancient mode of designing a building in amalgamation with the latest technologies available.

Course Contents:

Module I Introduction to Vastu

Introduction to Vastu, History of Vastu, Vedas and other ancient books, Growth of Vastu, Vastu and today, Scientific definition of Vastu, Solar Passage & Buildings with research referencing, Solar Energy, Humans & Buildings, Cosmic Energy & Flow:

Module II : Vedic Vastu

Concept of Vedic Vastu, VastuPurush, Mandalas, Five Elements Theory, Planets & Directions.

Module III : Planning As per Vastu

Direction and Corners, Eight directions, Importance of directions, Slope & Loading Pattern, Open space & balconies, Shapes, Vedic opinion on entries, Alternative opinion on entries, Main Door & Main Gate. Planning for Bedroom, Kitchen, Puja room, Bathroom, Children's room, Drawing Room, Living Room, Office Room.

Module IV : Land & Location as per Vastu

Angles in a Plot & Building, Veedhi Shoola, Angles &Extentions, Shermukhi & Gaumkhi plot, Good & Bad Location. Selection of land & soil test, Examination of the land as per Mayamata & Brahit Samhita, Types of Land as per Vedic books, auspicious land & Inauspicious land, Obstructions.

Scientific correlation of vastu

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

B.B. Puri, Applied Vastu Shastra in Modern Architecture
Michael Borden, Vastu Architecture: Design Theory and Application for Everyday Life
Kathleen Cox, Vastu Living: Creating a Home for the Soul
Talavane Krishna, TheVaastu Workbook: Using the Subtle Energies of the Indian Art of Placement
Sherri Silverman,Vastu: Transcendental Home Design in Harmony with Nature
Rohit Arya, Vaastu: The Indian Art of Placement

Maharishi Vastu, Vastu City Planning: Sustainable Cities in Harmony with Natural Law
Kathleen Cox, the Power of Vastu Living: Welcoming Your Soul into Your Home and Workplace
Juliet Pegrum, TheVastuVidya Handbook: The Indian Feng Shui
Kathleen Cox, Space Matters: Use the Wisdom of Vastu to Create a Healthy Home. 11 Top Designers Show You How
Satish Grover, Traditional Indian Architecture
Bubbar,D K, The spirit of Indian architecture: Vedantic Wisdoms of Architecture for Building Harmnious Space and Life

BAR 512 Architecture pedagogy

Course Code: BAR 512 **Credit Units: 02** **Teaching hours: 02**

Course Objective: To acquaint students with the history of development of education methods in architecture. To introduce the students with the prevailing models of teaching-learning methods and their application in architectural design education. To familiarize students with the skills to evaluate architectural design and other art forms. To introduce research methodology, paper writing and presentation as tools to transmit knowledge

Course Contents:

Module I: History and development of Architectural Education

Traditional teaching methods of India – Gurukul, Universities of Nalanda & Takshashila; Transmission of knowledge in architecture through temple architecture in ancient India; History of formal architecture education in West and in India. Peculiar requirements of Architecture Education, Requirements of generation of creative thinking

Module II: Introduction to learning methods

Aims and objectives of architecture education in India, Blooms Taxonomy, Levin's field theory, Carl Roger's theory of experiential learning, Peculiar requirements of Architecture Education; Models of Teaching: Advanced Organizer, Concept Attainment Model, Simulations – Use of advanced softwares to shape and visualize ideas, Synectics, Concept Mapping for organizing & communicating ideas, Basic aspects of classroom management

Module III: Design Process pedagogy

Various thinking skills, tools and techniques adopted by architects for deriving design ideas, Development of Design Thoughts, Experiential learning (case study methods) as guide in Design process, Use of synectics in the design studio, the essence of creativity in synectics, various forms of metaphoric thinking to activate "generative thinking."

Module IV: Appreciation & Criticism – assessment of architecture design

Arts, skill and technique of visual perception and form analysis, communication of the aesthetics of architecture and other associated art forms in a journalistic manner.

Module V: Research Methodology, Paper Writing and Presentation

Research methodology, proposing projects for research design, standardized methods of paper writing and presenting.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

S. K. Mangal (2009)"Essential of educational technology", PHI Learning Pvt. Ltd., 2009.

Bruce Joyce and Marsha Weils,"Models of Teaching", Pearson; 9 edition (April 14, 2014)

Klausmier and Ripple (1971)"Learning and Human Abilities" Harper &Row, New York.

Eames Charles & Ray, „An Eames Anthology", Yale University Press, Edited by Ostroff

Denial. George Kneller(1971),"Philosophy of Education" John Wiley & Sons Inc; 2nd Revised edition J. S.Chauhan,"Advanced Education Psychology" Sumit Prakashan

J. C. Agrawala (2009), "Essential of educational technology" Vikas Publishing House Pvt Ltd, 01-Nov-2009

Bruce Joyce(2014), "Models Of Teaching"Pearson; 9 edition (April 14, 2014)

2. Rizzoli (March 18, 2008);"How to Read A Building"Rizzoli (March 18, 2008);

Bruce Joyce,"Models Of Teaching",Pearson; 9 edition (April 14, 2014)

New Trends in Architecture Education, By- Ashraf Salama

BCS 501 COMMUNICATION SKILLS - III

Course Code: BCS 501 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To equip the participant with linguistic skills required in the field of science and technology while guiding them to excel in their academic field.

Course Contents:

Module I

Reading Comprehension

Summarising

Paraphrasing

Module II

Essay Writing

Dialogue Report

Module III

Writing Emails

Brochure

Leaflets

Module IV: Introduction to Phonetics

Vowels

Consonants

Accent and Rhythm

Accent Neutralization

Spoken English and Listening Practice

Examination Scheme:

Components	CT1	CT2	CAF	V	GD	GP	A
Weightage (%)	20	20	25	10	10	10	5

CAF – Communication Assessment File

GD – Group Discussion

GP – Group Presentation

Text & References:

Effective English for Engineering Students, B Cauveri, Macmillan India

Creative English for Communication, Krishnaswamy N, Macmillan

A Textbook of English Phonetics, Balasubramanian T, Macmillan

BSS 501 BEHAVIOURAL SCIENCE – V(Group Dynamics and Team Building)

Course Code: BSS 501 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To inculcate in the students an elementary level of understanding of group/team functions To develop team spirit and to know the importance of working in teams

Course Contents:

Module I: Group formation	**Definition and Characteristics Importance of groups Classification of groups Stages of group formation Benefits of group formation**
Module II: Group Functions	**External Conditions affecting group functioning: Authority, Structure, Org. Resources, Organizational policies etc. Internal conditions affecting group functioning: Roles, Norms, Conformity, Status, Cohesiveness, Size, Inter group conflict. Group Cohesiveness and Group Conflict Adjustment in Groups**
Module III: Teams	**Meaning and nature of teams External and internal factors effecting team Building Effective Teams Consensus Building Collaboration**
Module IV: Leadership	**Meaning, Nature and Functions Self leadership Leadership styles in organization Leadership in Teams**
Module V: Power to empower: Individual and Teams	**Meaning and Nature Types of power Relevance in organization and Society**
Module VI: End-of-Semester Appraisal	**Viva based on personal journal Assessment of Behavioural change as a result of training Exit Level Rating by Self and Observer**

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)		VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25	

Text & References:

Organizational Behaviour, Davis, K.

Hoover, Judhith D. Effective Small Group and Team Communication, 2002, Harcourt College Publishers Dick, Mc Cann & Margerison, Charles: Team Management, 1992 Edition, viva books

Bates, A. P. and Julian, J.: Sociology - Understanding Social Behaviour

Dressers, David and Cans, Donald: The Study of Human Interaction Lapiere, Richard. T – Social Change

Lindzey, G. and Borgatta, E: Sociometric Measurement in the Handbook of Social Psychology, Addison – Welsley, US.

Rose, G.: Oxford Textbook of Public Health, Vol.4, 1985.

LaFasto and Larson: When Teams Work Best, 2001, Response Books (Sage), New Delhi

J William Pfeiffer (ed.) Theories and Models in Applied Behavioural Science, Vol 2, Group (1996); Pfeiffer & Company

Smither Robert D.; The Psychology of Work and Human Performance, 1994, Harper Collins College Publishers

FOREIGN LANGUAGE 501

FLF 501 FRENCH - V

Course Code: FLF 501 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To furnish some basic knowledge of French culture and civilization for understanding an authentic document and information relating to political and administrative life

Course Contents:

Module D: pp. 131 – 156 Unités 10,11

Contenu lexical : **Unité 10 : Prendre des décisions**

1. **Faire des comparaisons**
2. **décrire un lieu, le temps, les gens, l'ambiance**
3. **rédiger une carte postale**

Unité 11 : faire face aux problèmes

1. **Exposer un problème.**
2. **parler de la santé, de la maladie**
3. **interdire/demander/donner une autorisation**
4. **connaître la vie politique française**

Contenu grammatical:

1. **comparatif - comparer des qualités/ quantités/actions**
2. **supposition : Si + présent, futur**
3. **adverbe - caractériser une action**
4. **pronom "Y"**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre : Campus: Tome 1

FLG 501 GERMAN - V

Course Code: FLG 501 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany

Introduction to Advanced Grammar and Business Language and Professional Jargon

Course Contents:

Module I: Genitive case

Genitive case – Explain the concept of possession in genitive

Mentioning the structure of weak nouns

Module II: Genitive prepositions

Discuss the genitive propositions and their usage: (während, wegen, statt, trotz)

Module III: Reflexive verbs

Verbs with accusative case

Verbs with dative case

Difference in usage in the two cases

Module IV: Verbs with fixed prepositions

Verbs with accusative case

Verbs with dative case

Difference in the usage of the two cases

Module V: Texts

A poem 'Maxi'

A text Rocko

Module VI: Picture Description

Firstly recognize the persons or things in the picture and identify the situation depicted in the picture;

Secondly answer questions of general meaning in context to the picture and also talk about the personal experiences which come to your mind upon seeing the picture.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 501SPANISH - V

Course Code: FLS 501 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire working knowledge of the language; to give them vocabulary, grammar, voice modulations/intonations to handle everyday Spanish situations with ease.

Course Contents:

Module I

Revision of earlier semester modules

Module II

Future Tense

Module III

Presentations in English on

Spanish speaking countries'

Culture

Sports

Food

People

Politics

Society

Geography

Module IV

Situations:

En el hospital

En la comisaria

En la estacion de autobus/tren

En el banco/cambio

Module V

General revision of Spanish language learnt so far.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Español Sin Fronteras, Greenfield

FLJ 501 JAPANESE - V

Course Code: FLJ 501 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write language comfortably and be able to converse using different patterns and forms taught through out. Students are taught and trained enough to get placed themselves in Japanese companies.
Note: Teaching is done in roman as well as Japanese script.

Course Contents:

Module I

Dictionary form of the verbs, joining of verbs

Negative form of verbs

Potential form

Module II

Joining of many actions together

Usage of dictionary form of the verbs in sentences

Introducing colloquial language.

Module III

Direct form of the speech, quotations,

Expressing thoughts

Actions and reasoning

Module IV

Conclusion

Receiving and giving things, favour etc.

Different forms like 'tara' form.

Module V

Revision of the whole syllabus

Learning Outcome

Students can speak and use different patterns, ways to describe a particular situation and can converse comfortably in mentioned situations through out.
Students can appear in the interviews for placements in Japanese companies.

Methods of Private study /Self help

Teaching will be supported by handouts, audio-aids, and self-do assignments and role plays. Use of library, visiting and watching movies in Japan and culture center every Friday at 6pm.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Text:

Teach yourself Japanese

References:

Shin Nihongo no kiso 1

FLC 501 CHINESE – V

Course Code: FLC 501 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

What English words come from Chinese? Some of the more common English words with Chinese roots areginseng, silk, dim sum, fengshui, typhoon, yin and yang, T'al chi, kung-fu. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I	**Drills** **Dialogue practice** **Observe picture and answer the question.** **Pronunciation and intonation.** **Character writing and stroke order**
Module II	**Intonation** **Chinese foods and tastes – tofu, chowmian, noodle, Beijing duck, rice, sweet, sour….etc. Learning to say phrases like – Chinese food, Western food, delicious, hot and spicy, sour, salty, tasteless, tender, nutritious, god for health, fish, shrimps, vegetables, cholesterol is not high, pizza, milk, vitamins, to be able to cook, to be used to, cook well, once a week, once a month, once a year, twice a week……** **Repetition of the grammar and verbs taught in the previous module and making dialogues usingit.** **Compliment of degree "de".**
Module III	**Grammar the complex sentence "suiran … danshi…."** **Comparison – It is colder today than it was yesterday…..etc.** **The Expression "chule….yiwai". (Besides)** **Names of different animals.** **Talking about Great Wall of China** **Short stories**
Module IV	**Use of "huozhe" and "haishi"** **Is he/she married?** **Going for a film with a friend.** **Having a meal at the restaurant and ordering a meal.**
Module V	**Shopping – Talking abut a thing you have bought, how much money you spent on it? How many kinds were there? What did you think of others?** **Talking about a day in your life using compliment of degree "de". When you get up? When do you go for class? Do you sleep early or late? How is Chinese? Do you enjoy your life in the hostel?** **Making up a dialogue by asking question on the year, month, day and the days of the week and answer them.**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

"Elementary Chinese Reader " Part-II Lesson 39-46

SIXTH SEMESTER

BAR 601 Architectural Design – VI

Course Code: BAR 601 **Credit Units: 08** **Teaching hours: 08**

Course Objective:

Understanding design as a function of specific agenda such as site condition, orientation, climate, circulation and essential services.Integration of free mobility concept in building design.

Course Contents:

Module I: Introduction and Research

Data Collection through Primary and Secondary sources and building services water supply/plumbing/firefighting /HVACs etc., Case Studies – Primary and secondary (study of live projects and analysis presentation). User requirement analysis

Module II: Study and Analysis

Study of barrier free building and design possibility.

Site and surroundings survey – location, local climatic conditions, topography, existing landscape, socio-cultural impact on design in relation to the services. Study of locally available services and their sufficiency and possibility of connecting the site with the same.

Module III: Complex Design issues

Involving the services as integral part of design.

Environmental and micro climate, User behaviour and requirements, Utility and space enhancement Form and function, Building Services / HVAC etc, Design detailing considering the barrier free environment, Socio-economic profile of user group, Parking details and standards. Water harvesting possibilities

Module IV: Structure as a part of design- Large Span structures

Consideration in planning of large span buildings.Finalization of appropriate grid

system for the buildings. Module V: Presentation

Enhancement of presentation skills using multiple media. Creation of 3-D models

based on the design. Module VI: Design Exercise

Design problem on sloping terrain considering the above dealing with planning for multiple activities such as Shopping malls, Commercial complex, Hospitals etc.

Public Buildings - Large Span structures:· Bus terminals, Multiplex. Auditorium Complex.Museum ,Art GalleryandConvention hall etc. Emphasis shall be on integration of different building services with architectural design and planning.

Submission shall include a model and views of the project.

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Text & References:

Text:

Time Saver Standards, J. D. Chaira and J. H. Calender

Architectural Graphic Standards, C. G. Ramsey

Neufert's Architects Data, V. Jones, Ed. Gen.

Architecture Problems and Purpose: Architectural Designing as a Basic Problems Solving Process, 1977, J. W. Wade NBC building Code

Still planning by J.O Simons

References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair weather

Architectural Graphic standards editor – Boaz Joseph

Planning – the Architect's handbook, E and E.O.

Time Saver standards for building types, Editor Joseph D.C. and John Callender.

BAR 602 Materials & Construction Technology – VI

Course Code: BAR 602 **Credit Units: 03** **Teaching hours: 04**

Course Objective:

To familiarize student with advance building materials and their construction details. Learning construction details of various building parts at advanced level. Course Contents:

Module I: Advance material I

Glass and glass products: Plain, sheet, plate, textured, laminated, wired and shock resistant glass. Glass blocks, g lass tiles, mirrors, heat reflecting glasses and Glass wool.

Plastics, Nylon, PVC, Bakelite, Polythene, glass fiber

reinforced plastic Module II: Basement construction

Type-full/semi /2 or more basement floors.

Water proofing material and admixture.

Design and construction detailing of basement

Design and detailing of Basement Ramp, slope, drainage, lighting, ventilataters and finishing etc.

Module III: Fast Pace Construction

Methods, types of construction – beams & slab, waffle grid slab, drop beam and slab, flat slab, lift slab, cast - in-situ service and stair core – cross wall and box frame construction.

Module IV: Elevators and Escalators

Elevators types and construction Details of lift section, machine room, equipment, lift well and lift pit. Escalators: types and construction detail, Travelators and other modern modes of movement. **detail,**

Exercises: field trip and report, preparation of drawings on above topics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Elements of Structure by Morgan
Structures in Architecture by Salvadori

Building Construction by Mackay WB Vol. 1-4

Construction Technology by Chudley Vol. 1-6

BAR 603 Structural Design & Systems – V (Advance Structural system)

Course Code: BAR 603 **Credit Units: 03** **Teaching hours: 03**

Course Objective:

To understand the design of Steel structures by using:- IS 800: 2007/1984. To help the students for understanding the design of steel structures members like:- beam, columns & girders by using IS:- 800; 2007 (based on limit state method) & impliment in analytical softwares like:- Tekla bentely version.

Course Contents:

Module I: Limit state method

Introduction,steelwork connections:-rivet, weld, bolt & pinned connections, failure & strength of a welded joint, working stresses in rivet joint, modes of failure of a riveted joint

Module II: Design of tension members

Introduction, types of tension member, net sectional area, net effective areas for angles & tees in tension, Permissible stresses, design of members subjected to axial tension & bending, lug angles.

Module III: Design of compression members

Introduction, modes of failure of a column, buckling failure:- Euler's theory, Ideal end conditions and effective length factors, radius of gyration & slenderness ratio, various column formulae, IS codes formulae, common shapes of compression members, strength of compression members, general specification for compression member, design of compression member

Module IV: Girders

Introduction, loads acting on girder, permissible stresses, types of girders & crane rails.

Module V: Advanced design for shear in beams:-

Design of advance R.C.C. Structures:- Strip & yeild line method, Shear friction, horizontal shear transfer, composite concrete beams, design of shear walls, strut- & tie model, truss model, deep beams, bearing & shearing walls & corbels.

Module VI: Design for earthquake resistance:-

Effect of confining the concrte & introducing the famous models, flexural hinges & their lengths ultimate deformation & ductility of members with flexure, moment curvature relationship, cyclic behaviour of beam-column member, redistribution of moments in reinforced beams, design of beam column joint.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

- **Civil Engineering Handbook – P.N. Khanna**
- **Design of steel structures by B.C. Punmia**
- **Design of Steel Structure – Negi**
- **Structure in Architecture – Salvadori and Heller**
- **Mechanics of materials – E. P. Popov**
- **Indeterminate structural analysis – J. Sterling Kinney**
- **Basic structural analysis – C.S. Reddy**
- **Reinforced concrete structures – R. Park and T. Paulay**
- **Concrete technology- M.L. Gambhir**
- **Design of reinforced concrete structures- N. Krishna Raju**
- **IS: 800- 2007 and SP: 16- 1980**
- **Advance R.C.C. design by N. Krishna Raju.**
- **Dynamics of structures by:- A.k. Chopra**
- **Advance concrte design by:- K. R. Arora.**
- **IS:- 3370, IS:- 1893.**
- **Special publication -6 (SP-6)**
- **Steel tables by birla publication.**

References:

- **Elements of Structure by Morgan**
- **Structures in Architecture by Salvadori**
- **Building Construction by Mackay WB Vol. 1-4**
- **Construction Technology by Chudley Vol. 1-6**
- **Elementary Building Construction by Mitchell**
- **Structure and Fabric by Everet**
- **Tekla software. With Bentely version V8i.**
- **Elements of Structure by Morgan**
- **Structures in Architecture by Salvadori**
- **Building Construction by Mackay WB Vol. 1-4**
- **Construction Technology by Chudley Vol. 1-6**
- **Elementary Building Construction by Mitchell**
- **Structure and Fabric by Everet**

BAR 604 Quantity surveying & Specification

Course Code: BAR 604 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize the students with the theory and practice of estimation and quantity surveying.To develop the understanding of specification writing

Course Contents:

SPECIFICATION

Module I: Introduction

Definition, importance and uses of specification – principles and practice; method of writing specification; form and sequence of clauses, calculation of length according to long & short wall method, center line method. Module II: Material Specifications

Writing detailed specification for various common building materials e.g., bricks, sand, lime, timber, glass, paints etc.; specification of new building materials

Module III: Specification of simple construction

Writing detailed specification for various building

construction works Module IV

Specification of BIS and other institutions; general Abbreviations used in specifications.

ESTIMATION

Module V: Introduction

Introduction to cost estimation and definitions of terms

related to estimates Module VI: Types of estimates

Types of estimates, abstract and detailed estimates; detail estimates – methods of estimating; taking out of various items; preparation of bill of quantities – use of schedule of rates; analysis of rate and break up of material requirements

Module VII: Cost accountancy and book keeping

Introduction to cost accountancy and book keeping

Module VIII: Rate Analysis

Principles of analysis of rates, rates of labour and materials, rate analysis in different building works.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Estimating and Costing in Civil Engineering: B. N. Dutta

Estimation, Costing & valuation by M. Chakraboty.

Handbook on Building Economics and Productivity, Central Building Research Institute, Roorkee: S.C. Singh and G.C. Sofat

Civil Engineering Handbook – P.N. Khanna

R.C.C. Design – Khurmi, Punmia, Sushil Kumar

BAR 605 Landscape Design & Site planning

Course Code: BAR 605 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To acquaint the student with the various natural elements used to design transitional and outside spaces and establish a linkage between nature and the built environment

Course Contents:

Module I: Introduction

Definition, scope, landscape architecture in relation to architecture. Landscape design elements and principles, historical review of gardens in India, Persia, Japan, Italy, France and England, contemporary landscape design Module II: Characteristics and use of plants

Characteristics of various types of plants/trees/shrubs/creepers/edges/hedges etc., and their suitability for landscaping; plant selection criteria, planting design.

Module III: Site Analysis and planning

Analysis of site with respect to topography/ slope, hydrology/ drainage, geology/ soil, vegetation, views – on site/ off site and their consideration in design and planning

Module IV: Landscape Design and maintenance

Landscape design for various building types; landscaping parks and roads, rock gardens, terrace gardens, landscaped courts. Preparation of landscape schemes; Landscape construction. Maintenance & phasing of landscape schemes.

Module V: Landscape design elements

Landscape design element such as sculptures/ benches/ umbrellas/ fences/ posts etc. their design, selection and incorporation in landscape/ site planning schemes.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

An Introduction to Landscape architecture by M. Laurie.

An Introduction to Landscape Design by H. V. Hubbard

Fundamentals of Landscaping and Site Planning by James B. Root. History of Garden Design by D. Clifford

Tropical Garden Plants in Colour by Bose and Chowdhury

References:

Colour and Design for Every Garden by Ortloff and Raymore Design with Nature by I. Mcharg

The Way We Live by Alfresco

New Landscape Design by Robert Holden

Fundamentals of Ecology by M. C. Dash.

Landscape Detailing by Michael Ittlewood.

BAR 606 Building Services – V (HVAC system)

Course Code: BAR 606 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Integration of HVAC system with building design &its application.To expose the students to the areas of air-conditioning, heating and ventilation in buildings of various types so that there integration could be done in most appropriate manner right at the design stage.

Course Contents:

Module I: Ventilation

Natural and artificial ventilation systems; estimation of ventilation requirements; mechanical ventilation in buildings; scheme and equipment required for ventilation spaces like industrial kitchens, underground garages, and multistoried buildings and parking spaces.

Module II: Air conditioning

Principles of Air conditioning; concept of thermal comfort; physiological principles; reaction of human body to the thermal environment; principles of psychometric; psychometric chart; selection of indoor and outdoor design conditions; refrigeration and air cycle; cooling and heating load calculations; various systems of air conditioning; duct work and air conditioning layout, fittings and fixtures; evaporative cooling, fair conditioning and its suitability. Types of systems- cooling tower, geothermal heating and cooling

Module III: Equipment's

Scheme and equipment required for HVAC; their placement and physical space requirements.

Module IV: Load calculation

Cooling and heating load calculations; Introduction to British thermal unit and other factors; various systems of air conditioning; duct work and air conditioning layout, fittings and fixtures; evaporative cooling.

Module V: HVAC design

Design and drawing of HVAC system for a building designed in previous semester.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Manohar Prasad, 'Refrigeration & Air conditioning'
C.P. Arora, 'Refrigeration & Air conditioning'
Modern Air-Conditioning, Heating and Ventilation: Carrer and G. Pitman.
Air Conditioning and Ventilation, Servems and Fellows, John Wiley
Ernest Tricomi-ABC of Air conditioning
Basics of Air conditioning by ISHRAE
All about Insulation by ISHRAE
ISHRAE HVAC Handbook 1997 Part - 1 -Air Conditioning
ISHRAE HVAC Handbook 2004 Industrial Ventilation
Applications ISHRAE The Hand Book on Green Practices

BAR 607 Study Tour, NASA & other Academic/ Professional activities-I (evaluation)

Course Code: BAR 607 **Credit Units: 01** **Teaching hours: 00**

Guidelines:

Students shall visit different sites and prepare a report covering different aspects
The report shall be evaluated and marks shall be added in even semester, for study tour.
It shall be related to the studies done in history of architecture, art & culture and Architecture Design of current & pervious semester.
Student will be marked for work done for national / Zonal convention of NASA (National Association of student of architecture) & any other activity related to NASA. Participation of every student will be compulsory in activities related to NASA though every student may not be attending the same. Report will be submitted for evaluation of NASA work.
Marking will be done for work done for NASA, in current & pervious semester.
Evaluation for all extracurricular activities will be done in this course (for current & pervious semester).

The Layout Guidelines for the Report

A4 size Paper
Font: Arial (10 points) or Times New Roman (12 points)
Line spacing: 1.5
Top and bottom margins: 1 inch/ 2.5 cm; left and right margins: 1.25 inches/ 3 cm The report can be hand written as well
The report shall be properly bound and submitted individually.

Assessment Scheme:

Continuous Evaluation:	**50% (Based on punctuality, regularity of work.)**
Final Evaluation:	**50% (Based on the Documentation in the file/ presentation/ viva)**

Domain Electives – V

BAR 608 Architectural Conservation

Course Code: BAR 608 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize the students with various aspects of Architectural Conservation. To understand the role of a conservationist architect.

Course Contents:

Module I: Introduction

Necessity, Values and Ethics, Principles and Scope of architectural conservation.

Module II: Methodology of Conservation

Understanding basic principles of conservation such as (a) Prevention (b) Preservation (c) Conservation (d) Restoration (e) Rehabilitation (f) Reproduction (g) Reconstruction (h) Adaptation

Module III: Structural Aspects of Buildings

Understanding Structural elements: beams, arches, vaults and domes; trusses and frames; piers, columns and foundations etc. accessing their losses and ways to conserve the same for longer life of building.

Module IV: Causes of Decay in Buildings

Natural and human factors; Environmental influences – thermal effect, corrosion and oxidation; Disasters; Botanical and biological causes. Accessing the extent of decay and devising the means to recover.

Module V: Building Repairs

Structural repairs, carpentry; Repairs of plaster work, paint work; Glass and mosaic surface repairs; Repair of excessive moisture etc. Understanding fundamentals of repairs of conservation for different purposes.

Module VI: Professional Practice

Investigation, documentation and analysis and preparation of inspection reports, Preventive maintenance; Legal provisions; Management and phasing, presentation of heritage buildings. Cost estimation and cost control Rehabilitation and adaptive use of buildings

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Conservation of Buildings by J. H. Harvey

An Introduction to Conservation by B. M. Feildon

References:

A Critical Bibliography of Building Conservation by J. F. Smith.

The Conservation of Historical Buildings by B. M. Feildon

BAR 609 Modular Construction Technology

Course Code: BAR 609 **Credit Units: 02** **Teaching hours: 02**

Course Objectives:

The course of Modular Construction is aimed at focusing on the study of use of pre-fabrication systems, systems developed by CBRI and other agencies, basic modular planning and the proportioning systems and using the skills in designing of buildings. In today's context when various components of building construction happens off site, it is important to design as per the units/modules, repetition of which gives a modularly coordinated design and helps in easy and fast construction. Thus, the student will be able to demonstrate knowledge of building construction and management with application of Modular coordination and pre-fabrication concepts in their design.

Module I: Orientation to Modular Construction

Defining the concept of Modular Construction

Introduction to system building, mechanization of production of different parts and components of building types of building sizes.

Review of market to know availability of modular materials

Classification of prefabrication systems developed CBRI, skeletal system, Brick panel system, non-structural elements, devotions in prefabrication.

Manufacturing of modules and their transport to the site.

Prefabrication; advantages, disadvantages and relevance in Indian context.

Shuttering and construction system for Use of RMC modular spaces and planning coordination requirements. of fixtures and components.

Module III: Modular planning of an interior space

Introduction to modular practice, basic modular planning and component Module, modular number pattern introduction. System of proportion-introduction of various systems and comprehensive industrialized building-introduction and application.

Development of planning Module and structural Modules for various types of buildings in India.

Module IV: Review of works of masters on modular construction such as Le Corbusier etc. and presentation of a report.

Module V: Construction requirements for modular construction design of building as per the availability of interior modular component such as tiles/ kitchen cabinets etc. to avoid wastage. Shuttering and scaffolding requirements. Introduction of 'MIVAN' shuttering system for making multiple housing units and its economics.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Duffy, F, Cave, C, Worthington, J. – Planning office space. Architectural Press, London,1976. Duffy, F. – New Office. Conran Octopus, London, 1997.

Meel, J. V.- The European office: Office design and national context. 010 Publishers, Rotterdam, 2000.

Harris, D. A. – Planning and designing the office environment. Van Nostrand Reinhold, New York, 1981. Neufert P, -Neufert Architects'Data- Third Edition by Blackwell Science Ltd. Oxford 2000

BAR 610 Architectural Photography

Course Code: BAR 610 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

This course will teach students to create successful images of exterior architecture, interior architectural design, as well as architectural models. The course discusses equipment, processes, and procedures necessary for the photography of building exteriors and interiors, dusk/night and night architectural landscapes, and construction progress. Students will learn to use Digital SLR camera, lighting techniques, software and to create output. Students will be able to use High Dynamic Range (HDR) : multiple exposures to create dramatic architecture/interior images without additional professional lighting.

Course Contents:

Module I: Architectural Photography

Origins of archyitectural photograph, Review of architectural photographs, Light and Shades, Understanding light – Properties and elements of light. Basics of camera – Operations and Control Parallax Error, use of camera, lens and understanding lighting conditions. Pixels, resolution, Sensor size Module II: Light and Architecture

Understanding light and photography, External lighting- Direction of lighting - front, side, back, shadows, texture, and effects of clouds, light modification, psychological effects, and types of artificial lighting, combined daylight and flash. Overview of architectural photography, Color balance, Reading histogram, White balance and Color temperature.

Module III: Creativity in Shooting

Finding Forms and Shapes, Elements and Principals of framing, Rules of composition, Aesthetic of framing and composition, Perceptual Control, Depth of field and center of confusion, Exterior and interior photography, Flash control

Module IV: Digital Post Production

Introduction to software, RAW file editing, HDR Imaging, Adobe Photoshop and Light room, Retouching and color correction, Printing Preparation

Module IV: Framing Views

Single point and two point perspective- examples, distortions, emphasizing architectural elements, effect of camera to subject distance, oblique angles, three point perspective- applications in interiors and exteriors - composition, symmetric composition, applying the law of thirds - examples, image capture to publication.

Project : Students should submit two projects at the end of the semester.

(a) **Interior Photography**

(b) **Exterior Photography**

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Ackerman, J. S. (2001). On the origins of architectural photography. Mellon lecture, December, 4, 2.

Harris, M. G., & Harris, M. G. (1998). Professional architectural photography. Oxford: Focal Press.

Rosa, J., & McCoy, E. (1994). A constructed view: The architectural photography of julius shulman. Rizzoli Intl Pubns.

Siskin, J. (2012). Photographing architecture: lighting, composition, postproduction, and marketing techniques. Buffalo, NY: Amherst Media.

Schulz A., Architectural Photography: Composition, Capture, and Digital Image Processing, O'Reilly Media Inc., 2010

Michael Heinrich, Architectural photography, Birkhauser, 2009

Michael G. Harris, Professional Architectural Photography, Taylor & Francis, 2002 4.

Kopelow A., Architectural Photography the Digital Way, Princeton Architectural Press, 2007

Domain Electives – VI

BAR 611 Bionic Architecture

Course Code: BAR 611 Credit Units: 02 Teaching hours: 02

Course Objectives : To introduce the interdisciplinary tool of biomimicry and provide real-world experiences applying this tool through individual and team work. By the end of the course, students will: 1) have a solid understanding of biomimicry and biomimetic examples, 2) be able to explain what biomimicry is to a variety of audiences in a clear and concise manner, 3) be able to effectively apply the tool of biomimicry to arrive at sustainable design solutions. At the end, students will be able to Develop a clear understanding of biomimicry and how it may be used to find sustainable solutions to human problems and Strengthen observation skills through deep pattern recognition.

Introduction to Biomimcry, Types of Biomimcry, evolution of Biomimcry and the start of the Ecological Age, nature's laws, strategies, and principles - Nature as a model, measure and mentor, changing metaphor and approach organic architecture - animal architecture - complexity of natural organisms and systems - Relationship between nature and architecture.

Returning Home To Earth - Natural materials manufacture principles - Inorganic materials - crystallized version of Earth derived materials - Natural construction - adaptation for human use (mud-dauber wasp compass termites, Eastern tent caterpillars, female bauble spiders and the extraordinary Namibian fog-basking beetle, beaver dam construction).

Introduction to Biomimcry in Architecture, History and evolution of Biomimcry in architecture, Characteristics of Biomimcry Architecture and its Levels, overlap between biology and architecture, living building - emerging biomimetics - technologies - biomimetics concepts in structural efficiency - material manufacture systems -zero-waste systems energy generation - the thermal environment - nanotechnology in architecture - biomimetics products.

Bionic Architecture, Application of Biomimcry in Architecture, Innovations and examples of Biomimcry architecture and its Limitations, Materials and technology in Bionic architecture, Biomimetic cities- Biomimetic future Approach - Nature model - New applications of biological life into Architecture

Biomimcry and Green building, Biomimcry innovations for energy efficiency, Sustainability through Biomimcry, How Biomimicry can be applied to energy efficiency and Climate Change

Exercise : Students may study Examples of Buildings case studies - works of Douglas Cardinal, Imre Makovecz, Daniel Liebermann, Eugene Tsui, Jacques Gillet, Petra Gruber etc.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text &References:

Michael Pawlyn, Biomimicry in Architecture , RIBA Publishing, Sept 2011

Architecture Without Architecture: Biomimicry Design, Omniscriptum Gmbh & Company Kg., 2010 - Nature (Aesthetics)

Blaine Brownell, Marc Swackhamer, Hypernatural: Architecture's New Relationship with Nature Architecture Briefs, Princeton Architectural Press, 2015

Eliezer Amador Pérez, Biomimicry/biomimetics in Architecture: A Way to Generate Architecture, University of Florida, 2014

Janine M. Benyus, Biomimicry : innovation inspired by nature, Harper Collins, 2009

Gruber P., Biomimetics in Architecture: Architecture of Life and Buildings, Springer, 2010

Mazzoleni I., Architecture Follows Nature - Biomimetic Principles for Innovative Design (Biomimetics), CRC Press, 2013

Hansell M., Animal Architecture, Oxford University Press, New York, 2005

BAR 612 Interior Landscape

Course Code: BAR 612 Credit Units: 02 Teaching hours: 02

Course objective:

The objective of the course is to introduce the students to the practice of arranging and designing plantscaping

Course contents:

Module I: Introduction

Introduction to interior landscape; history of evolution; Role and working of plantscaping organizations such as ASLA etc.; impact of interiorscaping world-wide; study of examples of various cities in early years and modern usages

Module II: Briefing Interior Landscape

Types of interior landscaping; concepts of horticulture, xeriscaping, etc.; listing and analysis of plants and vegetation as per their usage and climatic conditions

Module III: Principles of Interior Landscape

Ergonomics, topiary, etc concepts for designing/ ornamentation of interior landscaping; representation techniques, graphics and symbols, rendering techniques; study of various fundamentals of designing such as aesthetics, expressions, harmony, etc

Module IV: Working Exercise

Plantscaping an area using any style of Interior Landscaping, providing detail legends of plants, shrubs, etc; using any style of interior landscaping

Module V:

Planters/types and other hardware for interior landscaping

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

An Introduction to Landscape architecture by M. Laurie.

An Introduction to Landscape Design by H. V. Hubbard

Fundamentals of Landscaping and Site Planning by James B. Root. History of Garden Design by D. Clifford

Tropical Garden Plants in Colour by Bose and Chowdhury

References:

Colour and Design for Every Garden by Ortloff and Raymore Design with Nature by I. Mcharg

The Way We Live by Alfresco

New Landscape Design by Robert Holden

Fundamentals of Ecology by M. C. Dash.

Landscape Detailing by Michael Ittlewood.

BAR 613 Design of logo &Signage's

Course Code: BAR 613 **Credit Units: 02** **Teaching hours: 02**

Course objective:

To acquaint the students with graphic design of symbols, logos and signage

To familiarize the students towards its application in the field of architecture and built-environment globally

Course contents:

Module I: Introduction

Definition of Graphic design and its specialized industries; History of Visual communication, pivotal movements & designers that led to the development of Graphic Design industry dealing with Symbols, Logos and Signage as witnessed today.

Module II: Visual Design Fundamentals

Visual design elements and principles, theory of graphics and visualization, Colour theory, Typography and Photography;

2D and 3D visual elements for representation and transformations.

Module III: Design Process – Symbols and Logos

Creative thinking processes and methods; Typology fundamentals; designing, narrating and concept evolution for symbols and logos; Designing fundamentals of words, images, aesthetics, identity and expressions; Case Studies of famous examples of Logo and Symbol design;

Module IV: Design Process - Signage

Understanding importance of signage as per the building typologies; impact of commercial signage on users; ergonomics of informative signage; sign regulations, harmony with contextual urban design, architecture and environment, Design process and Case Studies of key informative and commercial signage.

Module V: Technology

Commerical Printing, materials & techniques for signage fabrication and erection, Signage lighting, Use of Graphic design softwares for designing symbols, lgos and signage.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Chris Calori, David Vanden-Eynden, Signage and Wayfinding Design: A Complete Guide to Creating Environmental graphic design system, 2015 wiley

Lisa Silver, Logo Design that Works: Secrets for Successful Logo Design, 2001, Rockport Publishers

Michelle Galindo, Signage Design, 2011, Braun

Edo Smitshuijzen, Signage Design Manual, 2007 Prestel Pub

BCS 601COMMUNICATION SKILLS - IV

Course Code: BCS 601 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To enhance the skills needed to work in an English-speaking global business environment.

Course Contents:

Module I: Business/Technical Language Development

Advanced Grammar: Syntax, Tenses, Voices

Advanced Vocabulary skills: Jargons, Terminology, Colloquialism

Individualised pronunciation practice

Module II: Social Communication

Building relationships through Communication

Communication, Culture and Context

Entertainment and Communication

Informal business/ Technical Communication

Module III: Business Communication

Reading Business/ Technical press

Listening to Business/ Technical reports (TV, radio)

Researching for Business /Technology

Module IV: Presentations

Planning and getting started

Design and layoutof presentation

Information Packaging

Making the Presentation

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

CAF – Communication Assessment File

GD – Group Discussion

GP – Group Presentation

Text & References:

Business Vocabulary in Use: Advanced Mascull, Cambridge

Business Communication, Raman – Prakash, Oxford

Business Communications, Rodgers, Cambridge

Working in English, Jones, Cambridge

New International Business English, Jones/Alexander, Cambridge

BSS 601BEHAVIOURAL SCIENCE – VI

(STRESS AND COPING STRATEGIES)

Course Code: BSS 601 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To develop an understanding the concept of stress its causes, symptoms and consequences.

To develop an understanding the consequences of the stress on one's wellness, health, and work performance.

Course Contents:

Module I: Stress

Meaning & Nature
Characteristics
Types of stress

Module II: Stages and Models of Stress

Stages of stress
The physiology of stress
Stimulus-oriented approach.
Response-oriented approach.
The transactional and interactional model.
Pressure – environment fit model of stress.

Module III: Causes and symptoms of stress

Personal

Organizational

Environmental

Module IV: Consequences of stress

Effect on behavior and personality
Effect of stress on performance
Individual and Organizational consequences with special focus on health

Module V: Strategies for stress management

Importance of stress management
Healthy and Unhealthy strategies
Peer group and social support
Happiness and well-being

Module VI: End-of-Semester Appraisal

Viva based on personal journal
Assessment of Behavioural change as a result of training
Exit Level Rating by Self and Observer

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)	VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25

Text & References:

Blonna, Richard; Coping with Stress in a Changing World: Second edition
Pestonjee, D.M, Pareek, Udai, Agarwal Rita; Studies in Stress And its Management Pestonjee, D.M.; Stress and Coping: The Indian Experience
Clegg, Brian; Instant Stress Management – Bring calm to your life now

FOREIGN LANGUAGE 601

FLF 601 FRENCH - VI

Course Code: FLF 601 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To strengthen the language of the students both in oral and written so that they can:

i) express their sentiments, emotions and opinions, reacting to information, situations;

ii) narrate incidents, events ;

iii) perform certain simple communicative tasks.

Course Contents:

Module D: pp. 157 – 168 – Unité 12

Unité 12 : s'évader

1. **présenter, caractériser, définir**
2. **parler de livres, de lectures**
3. **préparer et organiser un voyage**
4. **exprimer des sentiments et des opinions**
5. **téléphoner**
6. **faire une réservation**

Contenu grammatical:

1. **proposition relative avec pronom relatif "qui", "que", "où" - pour caractériser**

2. faire + verbe

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre: Campus: Tome 1

FLG601 GERMAN - VI

Course Code: FLG 601 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany

Introduction to Advanced Grammar and Business Language and Professional Jargon

Course Contents:

Module I: Adjective endings

Adjective endings in all the four cases discussed so far

Definite and indefinite articles

Cases without article

Module II: Comparative adverbs

Comparative adverbs as and like

Module III: Compound words

To learn the structure of compound words and the correct article which

they take Exploring the possibility of compound words in German

Module IV: Infinitive sentence

Special usage of 'to' sentences called zu+ infinitive sentences

Module V: Texts

A Dialogue: 'Ein schwieriger Gast'

A text: 'Abgeschlossene Vergangenheit'

Module VI: Comprehension texts

Reading and comprehending various texts to consolidate the usage of the constructions learnt so far in this semester.

Module VII: Picture Description

Firstly recognize the persons or things in the picture and identify the situation depicted in the picture;

Secondly answer questions of general meaning in context to the picture and also talk about the personal experiences which come to your mind upon seeing the picture.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für
Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 601 SPANISH – VI

Course Code: FLS 601 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire working knowledge of the language; to give them vocabulary, grammar, voice modulations/intonations to handle everyday Spanish situations in Present as well as in Present Perfect Tense with ease.

Course Contents:

Module I

Revision of the earlier modules

Module II

Present Perfect Tense

Module III

Commands of irregular verbs

Module IV

Expressions with Tener que and Hay que

Module V

En la embajada

Emergency situations like fire, illness, accident, theft

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Español, En Directo I A

Español Sin Fronteras

FLJ 601 JAPANESE - VI

Course Code: FLJ 601 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse in the language with the help of verbs and the usage of different sentence patterns, which help them to strengthen the language.

Students are taught and trained enough to get placed in Japanese companies.

Note: The teaching is done in roman as well as Japanese script. 10 more kanjis are introduced in this semester.

Course Contents:

Module I: Polite form of verbs

Expressing feelings with the polite forms of verb.

Module II: Potential form

Ability of doing or not doing something

Module III: Conjunctions

Joining two sentences with the help of shi and mo

Module IV: Intransitive Verbs

Sentence patterns of indirect speech

Module V: Feelings and expressions

Regret, existence etc.

Learning Outcome

Students can speak the language with the use of different forms of verb.

Methods of Private study/ Self help

Hand-outs, audio -aids, assignments and role-plays will support classroom teaching.
Students are encouraged to watch Japanese movies at Japan Cultural and information center.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Shin Nihon-go no Kiso Lesson No. 26 to 30.
All vocabulary and topics taught are from the above-mentioned book.

FLC 601 CHINESE – VI

Course Code: FLC 601 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Chinese emperor Qin Shi Huang – Ti who built the great wall of China also built a network of 270 palaces, linked by tunnels, and was so afraid of assassination that he slept in a different palace each night. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I

Drills

Dialogue practice

Observe picture and answer the question.

Pronunciation and intonation.

Character writing and stroke order.

Module II

Going out to see a science exhibition

Going to the theatre.

Train or Plane is behind schedule.

Indian Economy-Chinese Economy

Talking about different Seasons of the Year and Weather conditions. Learning to say phrases like-spring, summer, fall, winter, fairly hot, very cold, very humid, very stuffy, neither hot nor cold, most comfortable, pleasant …. etc.

Module III

Temperature – how to say – What is the temperature in May here?

How is the weather in summer in your area? Around 30 degrees

Heating, air-conditioning

Is winter is Shanghai very cold?

Talking about birthdays and where you were born?

The verb "shuo" (speak) saying useful phrases like speak very well, do not speak very well, if speak slowly then understand if speak fast then don't understand, difficult to speak, difficult to write, speak too fast, speak too slow, listen and can understand, listen and cannot understand … etc.

Tell the following in Chinese – My name is …. I was born in … (year). My birthday is ……. Today is … (date and day of the week). I go to work (school) everyday. I usually leave home at .(O'clock). In the evening, I usually ……. (do what)? At week end, I ……. On Sundays I usually …… It is today….. It will soon be my younger sisters birthday. She was born in ….. (year). She lives in ……. (where). She is working (or studying)…… where… She lives in …….. (where.)

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Elementary Chinese Reader Part-2 ,3 ; Lesson 47-54

SEVENTH SEMESTER

BAR 701 Architectural Design – VII

Course Code: BAR 701 **Credit Units: 12** **Teaching hours: 14**

Course Objective:

To acquaint the students with large scale multifunctional design involving site/master planning/urban design such as housing design along with other land use development, phasing of development.Student shall learn development of design programe.

To expose the students to advance building services and systems and to urban development regulations, planning bye-laws and architectural controls. The student shall also learn to handle actual contoured site Course Contents:

Introduction to the topic, planning and design of large scale housing; importance of urban development regulations, building bye-laws and architectural controls, Data Collection – Primary and Secondary regarding the master planning and urban design schemes.

Case Studies Primary and secondary (study of live projects and analysis presentation)of User requirement based on case studies about the planning and urban design requirement.

Site and surroundings survey- location, local climatic conditions, topography, existing landscape, socio- cultural impact on design. Study the site potentials in term of energy conservation and natural conditions those could be used in designing energy efficient building. Study on integration possibility of the site with the existing settlement.

Module IV Housing Design: Issues to be addressed for the design project pertaining to housing design: Density, mixed land use, ground coverage, development controls, · Existing systems, services and their integration with the project, User requirements (derived from surveys) and their comparison /modification for onsite use, Hierarchy, identity of space, public and private scales of space. Integration of community institutions etc., Detailing for the disabled and the elderly, Indian / local architectural responses to climate, culture, traditional values, building elements, symbols motifs and special character.

Preparation of Master Plan for Institutions: academic,administrative, staff housing, student hostels etc.· Environmental considerations in planning and design, Phases of development, Scope for expansion for future developments, Safe and comfortable vehicular and pedestrian movement, Issues of character and landscaping, Details pertaining to the disabled.

Module VI: Design Exercise

Redevelopment scheme	**Development projects – University design and Planning**
Rehabilitation scheme	**City Centers, District Centers**
Urban Improvement Projects	**Housing**

Submission shall include site models and a detailed model of one building

Examination Scheme:

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Text & References:

Site Planning Standards, J. D. Chaiara.

Time Saver Standards, J. H. Callender and J. D.

Chaiara Neufert's Architects Data, V. Jones, Ed. Gen.

Towards a Human Architecture, A. Bruce

Architectural Graphics – Ching Frank

Urban pattern by Arthur B. Gallion

Site planningby Kevin A. Lynch

BAR 702 Materials & Construction Technology – VII (Working Drawing)

Course Code: BAR 702 **Credit Units: 03** **Teaching hours: 04**

End semester exam hours: 03

Course Objective:
To acquaint the students with working drawing in construction work.
To expose the students to preparation and usage of working drawings on site.

Course Contents:

Module I: Introduction to Working and submission Drawing

Introduction to the topic and its relevance in the construction field.Aspects such as – construction terminology, building bye-laws, requirements of submission and completion / compounding of projects to be discussed.

Module II: Dimensions system

Dimension system at building and site level

Module III: Working Drawing I

Plans, section and elevation

Module IV: Working Drawing II

Typical structural detail.Excavation and shuttering working drawing and detail

Module V: Working Drawing III

Toilet / kitchen & staircase details.

Module VI: Working Drawing IV

Flooring handling pattern, Landscaping

.Module VII: Roof drainage, flashing

Detail of terracing for flat roofs.

Water proofing and rain water disposal.

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Exercises

Making complete set of working drawings and details for a small two storied building designed in the previous semester, with necessary changes made as per the local bye-laws.

List of drawings-

- **Architectural drawing-Site Plan, All Floor Plans, Elevations, Sections, Doors and Windows schedule and details,**
- **Structural drawing- Foundation Layout and details**
- **Services drawing-Electrical and Plumbing layouts, HVACs layout.**
- **Details drawing-Kitchen, Toilet, staircase details, Flooring Pattern, Details of grills, Parapet or railings, typical wall section with complete details.**

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Elements of Structure by Morgan
Structures in Architecture by Salvadori
Building Construction by Mackay WB Vol. 1-4
Construction Technology by Chudley Vol. 1-5

BAR 703 Construction & Project Management

Course Code: BAR 703 **Credit Units: 03** **Teaching hours: 03**

Course Objective:

Introduction of networking techniques and construction planning practices.Use of construction equipment and method along with quality control.To familiarize students with building construction practices, technology & sequencing for various items of works ranging sub structures, super structures, finishes and services installation.

Course Contents:

Module I: Introduction to Networking Techniques

Introduction to networking techniques: Use of computer aided CPM and PERT for planning, scheduling and control of construction works; computerized network scheduling and bar charts; errors in networks; types of nodes and node numbering system.

Module II: Introduction Construction Planning

Planning for construction and site facilities using network; preparation of construction schedule for jobs, materials, equipment, labour and budgets using CPM

Module III: Construction Quality Control

Construction quality control and inspection; significance of variability in estimation of risk; construction cost control; crashing of network

Module IV: Construction Equipment and Methods

Equipment for earth construction and application; concrete construction; production; handling; procurement; Placement; temperature control etc.

Module VI: Construction & Services

Sequence of construction from civil works, electrical HV & LV, plumbing, sewerage, HVAC, fire safety, other services.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Construction, Planning Management – U.K. Srivastav

Construction Planning, Equipment and Methods – R.L. Peurifoy

Construction Performance control ny networks – H.N. Ahuja

Construction Project Management – K.K. Chilkar

Construction Planning and Management – M.B. Dhir & S.P. Ghilot

References:

Project Management – S. Chaudhary

Project Management with CPM and PERT – Moder and Philipese

Construction Method and Techniques – Mullick Mullind

BAR704 Town Planning

Course Code: BAR 704 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Introduction to elementary science of town planning principles and study of evaluation and development of town planning through history

Course Contents:

Module I: Introduction to town planning

Introduction to Human settlements, principles of human settlements in ancient, medieval, modern times. History of Town Planning and Urban design,Concept of Town planning,

Module II: Evolution and development

Evolution of settlements, form & pattern through historical process of development. Study of various City plan patterns viz; Linear, Radial and Grid Iron layout patterns, New modern ways of Planning, Socio-economic dynamics of urbanization. Industrial revolution and modern city, Garden City, Satellite town, Democratic city. Case studies of some recent planned cities like New Delhi, Canberra, Brazillia, and Chandigarh.

Module III: Planning process

Methodology of conducting town planning, surveys and analysis of data collected, use of G.I.S. site planning & urban development, Study of traffic characteristic ; Composition, speed, volume and direction of movement. Urban road systems and geometry, Capacity of roads and intersections, Road network & sections, climate, service & zoning, city scape & street scape.

Module IVTown planning theories

Planning theories of the twentieth century, Current theories on physical planning.Planning theories of Sir Patrick Geddes, Kevin Lynch, Clarence Perry, Frank Lloyd Wright, Ebenezer Howard, Le Corbusier, Soria Y Mata, Lewis Mumford. Study of garden city, radiant city and Utopian concept.Neighborhood planning, elements of neighborhood, definition, formation, need & relationship with the town plan.

Module V: Planning Standards

Formulation of planning standards for land use, density, road and various community facilities at the local and town level. Study of Urban development plan formulation & Implementation (UDPFI) guidelines; Detailed understanding of the latest planning and housing acts and other planning regulation

Module VI Master Plan and land use planning

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Principles and practice of Town and Country Planning, Kebble
Urban and Regional Planning – A System Approach, J. B. Mcloughin Town Planning in its social context, G. Cherry
Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century by Peter Geoffrey Hall

The Development of the Planning Process, J. F. Amos
Ekistics: An Introduction to the Science of Human Settlements, C. A. Doxiadis Town Planning in Ancient India, Binode Dutt
Urban Pattern, Arthur B. Gallion

Domain Electives – VII

BAR 705 Light and Architecture

Course Code: BAR 705 **Credit Units: 02** **Teaching hours: 02**

Course Objectives: **The primary focus of this course is the study of natural and electric lighting in an architectural context. The course promotes the integration of occupant comfort, energy efficiency and daylight availability throughout the design process and places an emphasis upon the role light can play in shaping architecture. Students will learn a series of design techniques from rules of thumb and simulations to high dynamic range photography and physical model building. Throughout the course students will work in groups and apply these techniques to a semester-long course project. The course projects will be determined in discussion with the instructor.**

Course Contents

Module I: Introduction to lighting

Physics of lighting, direct, diffused and reflected, transmittance and reflectance, inverse square law. Photometric quantities: Intensity, flux, luminance, Luminance. Quality of light: direct and reflected glare, visual efficiency: visual acuity, contrast sensitivity, visual performance. Colour fundamentals: colour temperature, object colour, reactions to colour, chromaticity, colour rendering index. Light sources: basic characteristics, selecting an appropriate light source, comparison of natural and artificial light

Module II: Day lighting

Daylight sources: characteristics, standard overcast sky (Design sky), clear sky, partly cloudy sky. Daylighting design: opportunities, human factors, site strategies, aperture strategies (sidelighting and toplighting), specialized daylighting strategies-galleries, atria, light-pipe and shafts. Daylight factor: components, calculation as Bureau of Indian Standard methods. Control devices: conventional divisions, optical division, prismatic division, awnings, curtains, overhangs, light shelves, sills, fins, jalis, louvers and shutters, photochromatic and film controls, prismatic glass, special highperformance glasses inbuilt louvers

Module III: Electrical Lighting

Electric light sources: incandescent lamps, gaseous discharge lamps, fluorescent lamps, high intensity discharge lamps, other electric lamps-induction lamps, Light-Emitting Diodes, sulfur lamps and fiber optics. Electrical lighting design: lighting fixture distribution, mounting height, fixtures appraisals, coefficient of utilization, control, modular lighting design, general/ambient lighting, local/focus lighting, task lighting, layout. Prediction: average illuminance, horizontal illuminance by Lumen (Flux) method, illuminance at a point. Lighting control: switching, dimming, occupancy

Module IV: Lighting Technologies

Lighting Systems: Luminaries and Applications, Specifications, Lighting Documentation, RCP vs LTG Layouts, CAD drawings, Calculations, Daylighting, Electric Lighting,, Electric Lighting Luminaires, Directional Effects of Lighting, Light Distribution, Layers of Light, Residential Lighting Techniques, Office Lighting Techniques, Restaurant Lighting Techniques, Outdoor Lighting

Module V: Lighting Applications

Symbols Guide, Codes and Compliance, Lighting Organizations, Competitions, Lighting by application, Lamps and Electrical Systems, Lighting Systems: Luminaries and Applications, Specifications, Lighting Systems: Controls and Electricity, future of lighting. Issues, challenges and opportunities in integration of electrical and natural light for built environment. Lighting art galleries, museum, residential, educational, commercial, industrial, buildings Special lighting applications: emergency lighting, floodlighting, street lighting, fiber optic lighting, hollow light guides, prismatic light guides, remote source lighting

Exercise: In order to develop a feeling for the physical quantities related to light and daylight, students will initially measure, simulate and evaluate the daylighting in a local space. Students will then build a massing model of their project

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References

Architectural Lighting by M. David Egan, Victor W. Olgyay

Gordon, Gary; Interior Lighting for Designers; Wiley Publishing, 2003

Flynn, John; Seegil, Arthur; Steffy, Gary; Architectural Interior Systems: Lighitng/Acoustic/Air Conditioning; Van Nostrand Reinhold,

Karlen, Mark; Benya, James; Lighting Design Basics; Wiley Publishing, 2004

Russell, Sage; The Architecture of Light; ConceptNine, La Jolla, 2008.

Schiler, Marc; Simplified Design of Building Lighting, Wiley, 1998, Steffey, Gary; Architectural Lighting Design, Wiley, 2008

BAR 706 Intelligent Interiors

Course Code: BAR 706 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Technology is becoming inherent part of modern life and has invaded every aspect of our life including the building interiors. Intelligent interiors are one of the most important parts of the modern buildings and objectives of the course is to make students aware of the use of technology in interiors.

Course Contents:

Module I: Introduction

Overview of intelligent interiors and use of electronics & IT equipments for creating interesting interiors.

Module II: Intelligent Safety Systems

Use of technology to maximize the performance of fire alarms and security systems while at the same time minimizing costs. Incorporation of safety equipments such as CCTV etc aesthetically in the interiors

Module III: Workplace automation

Intelligence with respect to workplace automation in an intelligent interior consists of the use of high – tech office automation systems to render the operation of a company more efficient. This can be done at a reduced cost to tenants by virtue of the equipment being shared.

Module IV: Automation of interiors

Remote control in interiors, Managing and monitoring building efficiency from distance. Managing Security, HVAC etc from distance.

Module V : Virtual spaces and interiors

Learning ways & system of creating such spaces that change shape/ size/ ambience/ colour etc. to change according to performance & suite the audience- D/4D/6D interiors. Interiors to suit the model & behavior of the user. Right from ones entry to the building to reach his final destinations. Temperature, light and colour control.

Module VI: Intelligent use of energy

Intelligent interiors consist of energy use to the minimum with computerized system. To control light, airflow, air-conditioning, outdoor light entering the building heating and minimizing the energy consumption.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	

Text & References:

Text:

Drywall (Pro Tips for Hanging & Finishing), John D. Wagner
Graphic Interiors (Space Designed by Graphic Artists),
Corina Dean Interior design illustrated , Francis D.K. Ching
Graphic Interiors (Space Designed by Graphic Artists), Corina Dean

References:

A.J. Metric Handbook, Jan Bilwa and Leslie Fair weather
Architectural Graphic standards, Boaz Joseph
The Curtain Book, Mitchll Beazlty
Illustration + Perspectives (In Pantone Colors), Eiji Mitooka

BAR 707 Disaster Resistant Architecture

Course Code: BAR 707 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To expose the students to the various theoretical and practical aspects of disasters and explain them the precautions to be taken in design resistant structures.

Course Contents:

Module I: Introduction

Overview of disasters; major natural disaster – flood, cyclone, droughts, landslide, heat waves, earthquakes, fire hazards etc. and their importance to architects.

Module II: Factors Causing Earthquake

Basic understanding on fragile eco-system, physiographic and geo-chemical data mapping, soil and topography, hydrological factors, climatic conditions. Site planning, building form and shape, considerations for earthquake resistant buildings

Module III: Strategies for Disaster Prevention

Engineering, architectural, landscaping and planning solutions for different types of calamities. Norms, standard practice procedures for shelter and settlement

Module IV: Fire Safety in Buildings

Understanding Fire. Learning precautions for fire resistant buildings, Designing the fire resistant building using modern construction techniques and materials, Fire safety in multistoried buildings. Module V: Laws Related to Disasters

Fire related Laws for buildings, Earthquake related laws, provisions in NBC and other standards laid down by Bureau of Indian Standards

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

- **Dynamics of Structures by A. K. Chopra**
- **Building Configuration and Seismic Design, C. Arnold and R. Reitherman**
- **Earthquakes An Architect's Guide to Non-Structural Seismic Hazard, H. J. Lagorio**
- **Handbooks by IIT Kanpur for Earthquake Design.**

- **The Seismic Design Handbook, F. Naeim**
- **Design for Earthquakes, J. Ambrose and D. Vergun**

Domain Electives – VIII

BAR 708 Tensile Constructions

Course Code: BAR 708 **Credit Units: 02** **Teaching hours: 02**

Course Objectives:

The intent of this presentation is to demonstrate how tension structures expand the boundaries of form and function while educating you on the process of their development from concept to completion.

Course Contents:

Module I Introduction to tensile constructions

The theme and concept of the tensile construction shall be introduced to give the background from the temporary to permanent tensile structures.

Module II : Tensile Shapes And Structures.

The creative challenge to designers is to explore the development of striking new forms, which satisfy the structural requirements of the membranes surface. Developing new shapes of push-up elements, and varying the design of the perimeter connections enables dramatic variation in the appearance of a structure. so this can be done by learning Stress – strain diagram in simple tension, perfectly elastic, Rigid – Perfectly plastic, Linear work – hardening, Elastic Perfectly plastic, Elastic Linear work hardening materials, Failure theories, yield conditions.

Module III : Materials For Tensile Structure

The ability of fabric to form double curvature surfaces and its inherent translucency has always been attractive for designers. But with the advent of computer form finding and the development of reliable structural fabrics the world of tensile structures took a giant leap forward this will also lead to know and design different other kinds of material used for such structure.

Module IV : Tensile Structure For Indoors And Outdoors Spaces

This is to understand the various use of tensile in outdoors as well as in indoors for space designing and also develop an effective means and method of its design, installation, and use.

Module IV :Model Making In Tensile Structure

One common issue is that tensile are difficult to draw and harder still for the client to visualize to solve this we need to resolve this by the help of models…

The traditional way round this was to create a physical model (using a curious combination of foamboard, timber dowels and ladies' tights). Now we have a whole range of CAD programmes such as 'Rhino Membrane'* that can give designers the tools for the job.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Timoshenko & Goodier, "Theory of Elasticity", McGraw Hill

Srinath L.S., Advanced Mechanics of Solids, 10th print, Tata McGraw Hill Publishing company, New Delhi, 1994

Sadhu Singh, "Theory of Elasticity", Khanna Publishers

BAR 709 Interior Design

Course Code: BAR 709 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To initiate students into theory and practice of Interior Design. Understanding the theoretical and practical aspects of designing the interiors of a building and understanding the intricacies of the detailing.

Course Contents:

Module I: Application basic principles of design to Interiors

Elements and principles of design in context of interior design- Space, Light, Color, Texture, Form, Shape,Size, Volume, Plane, Balance, Symmetry, Rhythm, Proportion, Scale, Emphasis etc. Functional and aesthetic aspects of the Interiors.

Module II: Context based Interior Design

Understanding the function and purpose of the interior and formulation of the design theme such as modern, historical, contemporary etc. Understanding works of great masters and review of the classical interior designs

Module III: Furniture for Interiors

Context based selection of furniture, furniture design with the construction technique, types of furniture and their usage, construction materials and fabrics used in furniture designing, cost estimation,. Modular Furniture.

Module IV: Fixtures for Interiors

Lighting fixtures, chandeliers wall and ceiling fixtures and their applicability. Paintings, Murals and sculptures and their use for interiors. Security and audio visual fixtures and their incorporation in the design scheme so that the aesthetics in not impaired.

Module V: Modern trends in interior design

Understanding and designing modern interiors using modern materials and techniques. Modular Concept Interior .

Design of any one of the building types of approx area of 500 sqm with estimation shall be and exercise for the students..

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Architectural Graphics: C. Leslie Martin

Perspective for the Architect: Themes and Hudson

Perspective and Sciography, Shankar Mulik

Interior Design: Ahmed Kasu

Architectural Graphics – Ching

Frank References:

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair

weather Architectural Graphic standards editor – Boaz Joseph

Planning – the Architect's handbook, E and E.O.

BAR 710 Set design

Course Code: BAR 710 **Credit Units: 02** **Teaching hours: 02**

Course Objectives:

Set Design is an important and interesting section of design industry as it gives shape to ones' imagination and visualization. Set designing intends to expose students to different backgrounds and enhance designing skills by expressing ones' visualization into scenes. In this, students will be able to explore a new arena of employment

Module I: Orientation to the Set design

Introduction to set design, History of set designing, Materials and techniques, In sync of traditional set designing to contemporary sets. Case studies of classical & modern sets as submission of reports.

Module II: Application of set design

Practical use of Elements and principles of design in set Design, Presentation on different Film studios such as Ramoji film city, and Universal Studio/AUR Studio etc.

Module III: Workshop

Designing sets by using local low cost materials, designing artistic backdrops for various events held in college/ Students in groups designing sets such as News reports office, café.

Module IV : Virtual sets

Adoption of technology in design of sets, virtual sets. Incorporation of multimedia & modern gadgets within sets.

Module V : Modern set

Study of modern set, requirements for stage shows for different activities such as dances/ dramas/ plays/ solo and group performances/ reality shows/ discussion stage/ mobile & reusable stages. Understanding the equipments required and that aesthetic incorporation to enhance viewer pleasure.

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

- **Drafting for the theatre- Dennis Dorn and Mark Shanda**
- **Light Fantastic: The Art and Design of Stage Lighting- Max Keller**
- **The Handbook of Set Design- Crowood Press**
- **Set Design by Tony Davis**

BCS 701COMMUNICATION SKILLS - V

Course Code: BCS 701 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

To facilitate the learner with Academic Language Proficiency and make them effective users of functional language to excel in their profession.

Course Contents:

Module I

Introduction to Public Speaking

Business Conversation

Effective Public Speaking

Art of Persuasion

Module II: Speaking for Employment

Types of Interview

Styles of Interview

Facing Interviews-Fundamentals and Practice Session

Conducting Interviews- Fundamentals and Practice Session

Question Answer on Various Dimensions

Module III

Resume Writing

Covering Letters

Interview Follow Up Letters

Module IV: Basic Telephony Skills

Guidelines for Making a Call

Guidelines for Answering a Call

Module V: Work Place Speaking

Negotiations

Participation in Meetings

Keynote Speeches

Examination Scheme:

Components CT1	CT2	CAF	V	GD	GP	A
Weightage (%) 20	20	25	10	10	10	5

CAF – Communication Assessment File

GD – Group Discussion

GP – Group Presentation

Text & References:

Jermy Comfort, Speaking Effectively, et.al, Cambridge

Krishnaswamy, N, Creative English for Communication,

Macmillan Raman Prakash, Business Communication, Oxford.

Taylor, Conversation in Practice,

BSS 701BEHAVIOURAL SCIENCE – VII(Individual, Society and Nation)

Course Code: BSS 701 **Credit Units: 01** **Teaching hours: 01**

Course Objective:

This course aims at enabling students towards:

Understand the importance of individual differences
Better understanding of self in relation to society and nation
Facilitation for a meaningful existence and adjustment in society Inculcating patriotism and national pride

Course Contents:

Module I: Individual differences& Personality	**Personality: Definition& Relevance** **Importance of nature & nurture in Personality Development** **Importance and Recognition of Individual differences in Personality Accepting and Managing Individual differences** **Intuition, Judgment, Perception & Sensation (MBTI)** **BIG5 Factors**
Module II: Managing Diversity	**Defining Diversity** **Affirmation Action and Managing Diversity** **Increasing Diversity in Work Force** **Barriers and Challenges in Managing Diversity**
Module III: Socialization	**Nature of Socialization** **Social Interaction** **Interaction of Socialization Process** **Contributions to Society and Nation**
Module IV: Patriotism and National Pride	**Sense of pride and patriotism** **Importance of discipline and hard work** **Integrity and accountability**
Module V: Human Rights, Values and Ethics	**Meaning and Importance of human rights** **Human rights awareness** **Values and Ethics- Learning based on project work on Scriptures like-Ramayana, Mahabharata, Gita etc.**
Module VI: End-of-Semester Appraisal	**Viva based on personal journal** **Assessment of Behavioral change as a result of training Exit Level Rating by Self and Observer**

Examination Scheme:

Components	SAP	A	Mid Term Test (CT)		VIVA	Journal for Success (JOS)
Weightage (%)	20	05	20	30	25	

Text & References:

Davis, K. Organizational Behaviour,
Bates, A. P. and Julian, J.: Sociology - Understanding Social Behaviour
Dressler, David and Cans, Donald: The Study of Human Interaction Lapiere, Richard. T – Social Change
Lindzey, G. and Borgatta, E: Sociometric Measurement in the Handbook of Social Psychology, Addison – Welsley, US.
Rose, G.: Oxford Textbook of Public Health, Vol.4, 1985.
Robbins O.B.Stephen;. Organizational Behaviour

FOREIGN LANGUAGE 701

FLF 701 FRENCH - VII

Course Code: FLF 701 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

Revise the portion covered in the first volume, give proper orientation in communication and culture.

Course Contents:

Module A: Unités 1 – 3 : pp. 06 - 46

Contenu lexical :

Unité 1: Rédiger et présenter son curriculum vitae Exprimer une opinion
Caractériser, mettre en valeur
Parler des rencontres, des lieux, des gens
Unité 2: Imaginer - Faire des projets
Proposer - conseiller
Parler des qualités et des défauts
Faire une demande écrite
Raconter une anecdote
Améliorer son image
Unité 3: Exprimer la volonté et l'obligation
Formuler des souhaits
Exprimer un manque/un besoin
Parler de l'environnement, des animaux, des catastrophes naturelles

Contenu grammatical:

1. **Le passé : passé composé/imparfait**
2. **Pronoms compléments directs/indirects, y/en (idées/choses)**
3. **Propositons relatives introduites par qui, que, où**
4. **Comparatif et superlatif**
5. **Le conditionnel présent**
6. **Situer dans le temps**
7. **Féminin des adjectifs**
8. **La prise de paroles : expressions**
9. **Le subjonctif : volonté, obligation**

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

le livre à suivre: Campus: Tome 2

FLG 701 GERMAN - VII

Course Code: FLG 701 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse, read and write in the language with the help of the basic rules of grammar, which will later help them to strengthen their language.

To give the students an insight into the culture, geography, political situation and economic opportunities available in Germany.Introduction to Advanced Grammar and Business Language and Professional Jargon

Course Contents:

Module I: Dass- Sätze

Explain the use of the conjunction "-that", where verb comes at the end

of the sentence Module II: Indirekte Fragesätze

To explain the usage of the "Question Pronoun" as the Relative Pronoun in a Relative Sentence, where again the verb falls in the last place in that sentence.

Module III: Wenn- Sätze

Equivalent to the conditional "If-" sentence in English. Explain that the verb comes at the end of the sentence. Module IV: Weil- Sätze

Explain the use of the conjunction "because-" and also tell that the verb falls in the last place in the sentence. Module V: Comprehension texts

Reading and comprehending various texts to consolidate the usage of the constructions learnt so far in this semester.

Module VI: Picture Description

Firstly recognize the persons or things in the picture and identify the situation depicted in the picture;

Secondly answer questions of general meaning in context to the picture and also talk about the personal experiences which come to your mind upon seeing the picture.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Wolfgang Hieber, Lernziel Deutsch
Hans-Heinrich Wangler, Sprachkurs Deutsch
Schulz Griesbach, Deutsche Sprachlehre für
Ausländer P.L Aneja, Deutsch Interessant- 1, 2 & 3
Rosa-Maria Dallapiazza et al, Tangram Aktuell A1/1,2
Braun, Nieder, Schmöe, Deutsch als Fremdsprache 1A, Grundkurs

FLS 701 SPANISH - VII

Course Code: FLS 701 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable students acquire working knowledge of the language; to give them vocabulary, grammar, expressions used on telephonic conversation and other situations to handle everyday Spanish situations with ease.

Course Contents:

Module I

Revision of earlier semester modules

Module II

Zodiac signs. More adjectives…to describe situations, state of minds, surroundings, people and places. Module III

Various expressions used on telephonic conversation (formal and informal)

Module IV

Being able to read newspaper headlines and extracts (Material to be provided by teacher)

Module V

Negative commands (AR ending verbs)

Module VI

Revision of earlier sessions and introduction to negative ER ending commands, introduction to negative IR ending verbs

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

- **Español En Directo I A, 1B**
- **Español Sin Fronteras**

Material provided by the teacher from various sources

FLJ 701 JAPANESE - VII

Course Code: FLJ 701 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To enable the students to converse in the language with the help of different speech, possibilities, probabilities etc.

Note: The teaching is done in roman as well as Japanese script. 10 more kanjis (Japanese characters) are taught in this semester.

Course Contents:

Module I: Thought

Expressing one's thought and intentions on different situations.

Module II: Advice

Giving advice, probability, possibility and suggestions.

Module III: Informal Speech

Addressing friends and close people using informal ways.

Module IV: Simultaneous Verbs

Describing two situations simultaneously.

Module V: Possibility

Explaining the probability and possibility of any situation.

Learning Outcome

Students can interact in a formal as well as informal way on above-mentioned topics.

Methods of Private study/ Self help

Hand-outs, audio-aids, assignments and role-plays will support classroom teaching.

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

Shin Nihon-go no Kiso Lesson No.-31 to 35.
All vocabulary and topics taught to the students are from the above mentioned book.

FLC 701 CHINESE – VII

Course Code: FLC 701 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

The story of Cinderella first appears in a Chinese book written between 850 and 860 A.D. The course aims at familiarizing the student with the basic aspects of speaking ability of Mandarin, the language of Mainland China. The course aims at training students in practical skills and nurturing them to interact with a Chinese person.

Course Contents:

Module I

Drills

Dialogue practice

Observe picture and answer the question.

About china part – I Lesson 1, 2.

Module II

Pronunciation and intonation

Character Writing and stroke order.

Module III

Ask someone what he/she usually does on weekends?

Visiting people, Party, Meeting, After work….etc.

Module IV

Conversation practice

Translation from English to Chinese and vise-versa.

Short fables.

Module V

A brief summary of grammar.

The optative verb "yuanyi".

The pronoun "ziji".

Examination Scheme:

Components	CT1	CT2	C	I	V	A
Weightage (%)	20	20	20	20	15	5

C – Project + Presentation

I – Interaction/Conversation Practice

Text & References:

"Kan tu shuo hua" Part-I Lesson 1-7

EIGHTH SEMESTER

BAR 801 Practical Training

Course Code : BAR801 **Crédit Units: 25**

Course Objective:

To expose the students to the practical environment and works by working under an Architect. To gain a practical knowledge and involved in all aspects of office works.

Course Contents:

At the end of the 7th Semester, and as a part of the Academic Curriculum, the students of the Bachelor's of Architecture are required to undergo a compulsory Practical/Field Training for a period of 6 Months.

Students are required to be involved in all works in an Architect's office including site visits also. The students should work on projects assign to them in terms of sketch deign, presentation of drawings, Detailed working drawings, model making, estimation, specification, tendering of small buildings.

The performance of each student in the Office of placement will be submitted by the office in charge to whom the student will be attached for the training. The performance record will be obtained bi-monthly on the prescribed format, which will be sent to the office of the placement.

Assessment : The Practical/Field Training will be supervised by the faculty from time to time by making regular visits to the places of the training to get a first hand feedback about the students' work & discipline etc.

In addition, the office will be requested to submit a confidential report about discipline/behavior/punctuality, which will be part of marking system.

Submission: At the end of Practical/Field Training each student will submit a portfolio* of his/her work along with the aspects which the student has learnt to enhance his/her professional capability.

The portfolio will be assessed by an internal Jury where each student will be given time to display, present & conclude the experience gained.

***: A portfolio shall include written report, blue print/photocopies of the practical work done and or photographs of the work executed during this period.**

Note: The Practical/Field Training will be organized by the School, however a student will be allowed to chooses a place of his/her preference for which prior approval of the School will be required.

Examination Scheme:

The Practical/Field Training is intended to be evaluated as below:

Components	S	Viva
Weightage (%)	50	50

NINTH SEMESTER

BAR 901 Architectural Design – VIII (Urban Design Studio)

Course Code: BAR 901 **Credit Units: 14** **Teaching hours: 18**

Course Objective:

Student shall learn the urban design concept and shall learn to design on the site taking the offsite consideration. On the site they shall learn to design taking the surroundings and areas beyond the boundaries also consideration.

Course Contents:

Module I: Introduction to Urban Design concept

Introduction to urban design concepts and their relation with the Architecture.

Module II Case studies

Students shall visit live site, take photographs and measurements and learn to identify landmarks, vista erc. Basic urban design element and present a report.

Module III: Development regulations

Understanding of development regulations, Master Plan and other legal restrictions and making presentations.

Module IV: Process of urban design

Learning the process of urban design, delineation of the study area, making detailed analysis, mapping the area, identifying the important onsite and offsite elements, heritage structures and working out inferences.

Module V : Design formulation

Working out the alternative proposals of the area delineated in module IV. Preparation of vision statement, analyzing the proposal and working out detailed design giving the necessary interventions.

Module VI: Design Programme :

Phasing out the development, preparing and comparison of existing situation to the proposed images, possibilities of development

Design exercise can include urban development/ redevelopment schemes, Neighborhood unit or similar assignments. The design shall include detailing of one of the building. Students shall submit Presentation drawings and a model with views

Design Problem shall include application of courses taught in previous semester such as material & Constructions technology and Building services.

Components	A	S1	S2	CT	Viva	EE
Weightage (%)	05	15	20	10	20	30

Examination Scheme:

Text & References:

Text:

Emerging concepts in urban design space design –
Broadban, G Image of the city - Lynch K.
Urban Pattern – S. Gallion
A Pattern Language – Angel King Fiksdahi
Urban Planning, Theory and Practices- M.Pratap Rao

References:

Site Planning- K. Lynch

Site Planning by Simonds

BAR 902 Materials & Construction Technology – VIII (Advanced Building Construction)

Course Code: BAR 902 **Credit Units: 04** **Teaching hours: 04**

Course Objective:

Understanding different technology used in latest construction methods and Studying modern construction techniques.

Course Contents:

Module I: Introduction to Pre-Fabrication Technology

Introduction to the topic and its relevance in the construction field. Aspects such as – construction terminology, types, Applications, Detailing. Site visits and material collection from Pre-Fabrication manufacturing units and live examples. Module II: Introduction to Pre-Stressed Technology

Introduction to the topic and its relevance in the construction field. Aspects such as – construction terminology, types, Applications, Detailing. Site visits and material collection from Pre-Stressed manufacturing units and live examples.

Module III: Advanced Glazing systems

Structural Curtain wall –Design, detailing and specifications, Staircase and railing in glass-details of junction fixing etc. Market survey of available materials, technology and hardware. Students shall

Module IV: Advanced Architectural details

Advance details of grooves, beading and patterns in furniture and fixtures and their continuity, understanding the use of modern fixtures and hinges as applied to various building material. Students shall prepare details of some of works done by them in the previous years.

Module VI: Miscellaneous metals such as copper, stainless steel etc. and their advanced application in buildings such as cladding, piping etc along with three detailing of their construction..

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Building Construction – Materials by M.V.
Naik Strength of Materials – Khurmi R. S.
Applied Mechanics and Strength of Materials – Khurmi
R. S. Civil Engineering Handbook – P.N. Khanna
R.C.C. Design – Khurmi, Punmia, Sushil
Kumar Design of Steel Structure – Negi
Structure in Architecture – Salvadori and Heller

References:
Elements of Structure by Morgan
Structures in Architecture by Salvadori
Building Construction by Mackay WB Vol. 1-
4 Construction Technology by Chudley Vol.
1-6 Elementary Building Construction by
Mitchell Structure and Fabric by Everet

BAR 903 Housing

Course Code: BAR 903 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize the students with various aspects, issues and considerations related to housing design and community planning.

Course Contents:

Module I: Introduction to housing

Definition of house and housing. Housing and its importance in Architecture; Housing and its relationship with Neighborhood and city plan. Various aspects and issues of housing,

Module II: Types of dwellings

Type of dwelling structures, Built form, socio-psychological and aesthetic implications and suitability of different types of dwellings, detached, semidetached houses, Flats and multistoried classification according to the type of access-corridor, gallery, direct grouped, combination of these access types. Definition of each of the above types, their suitability, advantages, disadvantages and social, economic and aesthetic implications. Sub- division techniques; proportions of plots and need of roads. Garages and parking areas.

Module III: Energy-efficient and cost effective housing

Cost reduction in housing: techniques and related issues, alternative building materials. Energy efficient housing.

Module IV : Govt Policies and intervention

Housing situation in India, Various Govt programmes

Module V: Local Considerations

Importance of topography in housing design. Problems inherent in steeply sloping sites, economic and aesthetic implications of the building along and against the contours, silhouette problems on a sloping site. Effects of plantation in the background and front of buildings on a sloping site. conservation of beauty spots, Roads in residential areas.

Module VI: Housing Design and Site Planning

Criteria for site selection and housing layout considerations, Considerations of physical characteristics of site, climate and orientation, Importance of orientation and climatic factors in housing design. Location factors, legal and financial factors, norms and standards for dwelling community and neighborhood factors, shopping, education, health and recreational facilities.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

An Introduction to Housing layouts: Greater London Council
Housing: J. Macsai.
Low cost housing in developing countries by G.
C. Mathur Laurie Baker by Gautam Bhatia

References:

Housing: an environment for living, Keiser, Marjorie Branin

Housing and Buildings in hot-humid and hot-dry climate.

BAR 904 Dissertation

Course Code: BAR 904 **Credit Units: 02** **Teaching hours: 03**

Course Objective:

The objective is to introduce students to the research based project and its analysis. A research study will be undertaken by each student of different topics of immediate relevance to the professional knowledge. The study would include a through literature survey as well as data collection from the field service or by contact with practicing Architects, Interior designers and public at large as clients. Each student will prepare an analytical research project based on the above information and submit in the form of a well-complied document duly illustrated with relevant diagrams, sketches and informatics presentation.

Note: Dissertation can be treated as a preamble as the base of the thesis done on individual basis so the students could learn to work on research project

Course Contents:

Module I: Introduction

Introduction to the dissertation project and get the project/ topic approved by the school and respective faculty giving suitable justifications and reasons for the research. The proposal of research should include the aims, objectives, methodology, limitations, bibliography, site etc. at the time of approval of topic.

Module II: Collection and Analysis of Data (Case Study)

Site and surroundings survey- location, local climatic conditions, topography, existing landscape, socio-cultural impact on design. Study the site potentials in term of energy conservation and natural conditions.

Module III: Analysis of Data

Research analysis and data collection, Justification to topic selected. Detailed study of functions, Study of relationship of built and open spaces, interlinking of various activities.

Module IV: Methodology

Methodology of research, Data analysis, Data compilation.

Module V: Presentation

Preparation of analysis report with suitable drawings for discussion

Submission: The submission will be in the hard Bound A-4 Size Report. The research should include the followings:

Selection of Dissertation topic	Justification to topic selected	Site analysis and justification
Methodology of research	Research analysis and data collection	Climatic conditions
User requirements and standards	Analysis	Inferences
Conclusions	Recommendations/ Suggestions	Bibliography

Examination Scheme:

Components	A	C	P1	Viva
Weightage (%)	05	15	30	50

Text & References:

Text:

Site Planning Standards, J. D. Chaiara.

Time Saver Standards, J. H. Callender and J. D.

Chaiara Architectural Graphic Standards, C. G. Ramsey

Neufert's Architects Data, V. Jones,

Ed. Gen. References:

Intention in Architecture, N. S. Christian

Form and Structure, D. Philip and O. Frei

A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fair

weather Planning – the Architect's handbook, E and E.O

Domain Electives – IX

BAR 905 Product design

Course Code: BAR 905 **Credit Units: 02** **Teaching hours: 02**

Course Objective: To expose the students to the various theoretical and practical aspects of ergonomics and product design

Definition of human factors, Application of human factors data, Human activities – their nature and effects, man-machine system and physical environment.

human performance and system reliability, information input and processing, , visual display, visual discrimination, Alphanumeric and related displays, visual codes and symbols, Auditory, tactual and olfactory mechanism, applied anthropometric, physical space and arrangement.

Form, colour, symbols, user specific criteria; material, technology and recyclability; packaging; multiple utility oriented approach to product design; design of household elements, tools and devices; element design for the physically and mentally repaired. Creative thinking –creativity and problem solving- creative thinking methods-generating design concepts-systematic methods for designing –functional decomposition – physical decomposition – functional representation –morphological methods-TRIZ- axiomatic design

Design Definitions and Design Spectrum, Product Attributes – Function and Emotion, Product configurations and Component relationships, Product Analysis – Diachronic, Synchronic, Understanding and Analyzing contexts, parallel situations, future situations, Understanding modularity and modular systems, 3D lattice and structures, Design of Modular System ,abstract design, Process of conception and its documentation. Identifying customer needs,voice of customer,customer populations,hierarchy of human needs,need gathering methods – affinity diagrams – needs importance-establishing Product Design characteristics-competitive benchmarking- quality function deployment- house of quality-product design specification-case studies

Module V: Industrial application of Product Design

Industrial Product design, human factors design, user friendly design, design for serviceability, design for environment, prototyping and testing, cost evaluation, categories of cost, overhead costs, activity based costing methods of developing cost estimates, manufacturing cost, value analysis in costing

Exercise : Hands on Workshops on Product Design Studio, Case Studies on Product Design Development and Value Engineering

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

A-Level Product Design, Will Potts

Materials and Design: The Art and Science of Material Selection in Product Design, Michael Ashby, Kara Johnson Human Factors in Product Design, W.S. Green

Product Design: Graphics with Materials Technology, Lesley Cresswell

References:

Creativity in Product Innovation, Jacob Goldenberg, David

Mazursky Building Product Models, Charles M. Eastman

Building Better Products with Finite Element Analysis, Vince Adams, AbrahamAskenazi

BAR 906 Cost Effective Architecture

Course Code: BAR 906 **Credit Units: 02** **Teaching hours: 02**

Course Objective: To familiarize the student with cost-effective construction for building economy. To develop an understanding of different issues, types and techniques involved in the design and construction of low cost structures

Course Contents:

Module I: Introduction

Basic shelter issues in India and Affordability, Need for achieving low costs in building construction – Low cost vs. Quality. Factors constituting building costs, Controlling parameters for achieving Cost Effective Architecture – land, space, materials, design, construction techniques, construction time & labour.

Module II: Understanding needs of economically weaker sections

Cultural study of economically weaker sections in India in different pockets like slums & existing EWS & LIG housings, space usage pattern studies, study for modifications and alterations done by dwellers in existing EWS & LIG Schemes.

Module III: Architectural Planning & Design for Cost Effective Architecture – Space Optimization

Site planning and Architectural Design as tools for Cost Effective Architecture, Space planning Norms of National Building Code, India for Economically weaker Sections in Urban and Rural Areas; National building organization – Recommendation of Housing and Urban Development Corporation, Space optimization as a process of cost reduction, Multiple use of space. Multiple use of furniture.

Module IV: Building Materials, Construction techniques & Time Optimization for Cost Effective Architecture

Local materials and traditional technologies, Improved traditional technologies, Innovative Materials and construction methods developed Laurie baker; CBRI Roorkee, HUDCO, Anangpur Building Centre, Development Alternatives, Auroville Building Centre and many others for different types of walling, roofing and foundation with materials like Pressed soil blocks, soil cement blocks and other alternative materials – fly ash brick, gypsum byproducts, Ferro cement products, bamboo, jute stalk etc; Ways to cut down the use of unwanted building materials, Project time optimization to reduce project costs, Use of effective project management techniques.

Module V: Studies and Comparative Analysis for Cost Effectiveness

Case studies presentations of low cost/ cost effective projects and their comparative cost analysis with conventional projects.

Examination Scheme:

Components	A	CE	CT	EE
Weight age (%)	05	25	20	50

Text & References:

Alternative Construction, Contemporary Natural building Methods: Edited by Lynne Elizabeth and CassandrAdams.

Low cost housing in developing countries by G. C. Mathur

How the other half builds – Vol 1, 2 & 3 by Vikram Bhatt et al.

National Building Code of India, 2005 – PART 3 – ANNEX C,

E & F Laurie Baker – Life, work, writings by Gautam Bhatia

Low Cost Housing – An analytical Study of the current practices & techniques by Vastu Shilpa Foundation

CBRI Publications – Book 1-9

Low Cost Housing competitions 1974 – 96 by HUDCO

How to reduce building costs by Laurie Baker

BAR 907 Prefabrication

Course Code: BAR 907 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To acquaint the students to Prefabrication in construction, industrialized construction and design of prefabricated elements. To familiarize the students with construction method/ techniques used for these elements in building works.

Course Contents:

Module I: Introduction

Need for prefabrication, advantages and disadvantages of prefabrication, Principles, Materials, Modular coordination, Standardization, Systems, Production, Transportation and Erection.

Module II: Prefabricated Components

Behavior of structural components, Large span constructions, Construction of roof and floor slabs, Wall panels, Columns, Shear walls.

Module III Design Principals

Disuniting of structures- Design of cross section based on efficiency of material used – Problems in design because of joint flexibility – Allowance for joint deformation.

Module IV Joint In Structural Members

Joints for different structural connections – Dimensions and detailing – Design of expansion joints. Basic Construction and fixing details used for various prefabricated panel/ elements, their applications, types, pricing, advantages & disadvantages

Module V: Design For Abnormal Loads

Progressive collapse – Code provisions – Equivalent design loads for considering abnormal effects such as earthquakes, cyclones, etc., – Importance of avoidance of progressive collapse.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

1. CBRI, Building materials and components, India, 1990

2. Gerostiza C.Z., Hendrikson C. and Rehat D.R., "Knowledge based process planning for construction and manufacturing", Academic Press Inc., 1994

References:

1. Koncz T., "Manual of precast concrete construction", Vol. I, II and III, Bauverlag, GMBH, 1976.

2. "Structural design manual", Precast concrete connection details, Society for the studies in the use of precast concrete, Netherland Betor Verlag, 2009

TENTH SEMESTER

BAR 1001 Project (Thesis)

Course Code: BAR 1001 **Credit Units: 18** **Teaching hours: 24**

Course Objective:

To provide the students an opportunity to research and develop a design scheme for a project of their choice and approved by the school maintaining professional working standards and attain a professional level approach with extensive details. To attain independent professional approach analysis based design projects achieving high level of workability, efficiency and aesthetics in 3-D form with all the services properly worked out.

Course Contents:

Module I: Introduction

Introduction to the thesis design and get the project approved with the finalization of thesis guide/s. (Consent to be taken from internal and external guide both). The project research should include the followings:

Aim and Objective of study and Justification to topic selected	Case studies selected	Suggestions
Methodology of research	Analysis of study	Concept and planning of your own design
Limitation and scope of research	Conclusions of study	Bibliography

Module II: Research

Extensive research specific to project through the primary and secondary data collection. Conduct the case studies with extensive study and analyze to get a clear picture of the existing example. Detailed site study is to be conducted simultaneously.

Module III: Concept Development and Designing

Development of concept at various stages and levels with conceptual model and 3-D sketches to be studied. Design to be developed through a series of appraisals and open discussions. Planning at site as well as building level to be frozen and workability, efficiency of design to be worked out and finalized.

Module IV: Specifications and Estimation

The project estimation with all the necessary specifications to be detailed and studied to get a clear picture of the cost of the project. The details should include all the interior and exterior details.

Module V: Presentation

Complete project development and analysis report to be compiled containing all the details of the project. Presentation in terms of 3-D drawings and detailed Model to be submitted. Mode of presentation may be mutually devised by co-coordinators and student that may be project specific.

Examination Scheme:

Components	A	P	S	External Jury/Viva
Weightage (%)	05	25	20	50

The thesis project to be evaluated through open jury comprise of thesis guide and external expert members.

Text & References:

Text:

Site Planning Standards, J. D. Chaiara.

Time Saver Standards, J. H. Callender and J. D.

Chaiara Architectural Graphic Standards, C. G. Ramsey

Neufert's Architects Data, V. Jones, Ed. Gen.

Towards a Human Architecture, A. Bruce

Architectural Graphics: C. Leslie Martin

Perspective for the Architect: Themes and Hudson

Interior Design: Ahmed Kasu

Architectural Graphics – Ching Frank

Engineering Drawing – P.S. Gill

References:

Form and Structure, D. Philip and O. Frei

Architectural Graphic standards editor – Boaz Joseph

Planning – the Architect's handbook, E and E.O.

Time Saver standards for building types, Editor

Joseph D.C. and John Callender.

Practical Plane and Solid Geometry – H. Joseph and Morris

Architectural Thesis done by other people

BAR 1002 Professional Practice & Management

Course Code: BAR 1002 **Credit Units: 02** **Teaching hours: 02**

Course Objective-To acquaint the students about different Professional and Legal bodies related to the Architecture Profession, their role and importance to a professional

To make the students understand the professional intricacies, professional responsibilities and conduct, legal obligations and implications so that at the end of their studies the Students is familiar of their responsibilities as a professional. Module I –Professional Bodies- Familiarization with different Professional Bodies directly and in-directly related to architecture profession such as The Indian Institute of Architects (IIA), The Council of Architecture (COA), The Indian Institute of Interior Designers (IIID), International Union of Architects (UIA), Architects Regional Council Asia (ARCASIA), South Asian Association for Regional Cooperation of Architects (SAARCH), The Indian Society of Landscape Architects (ISOLA), The Institute of Engineers (India) (IEI) , The Institute of Town Planners India (ITPI) etc. Module II Discussions in Detail about the IIA, its formative History, Its bye laws, rules and regulations, membership procedure and categories, IIA Elections, Functions and formation of the IIA Council, Importance of IIA, Activities of IIA and Awards by IIA.

Module III Architects Act 1972 and COA - Detailed study of the Act, different clauses and their consequences. Study of the Intellectual Property Right Act. The Council of Architecture- its formation procedure, functions role and responsibilities, members of the council, rules and regulations of the COA. Minimum Standards of Architectural Education as set up by the COA.

Module IV Code of Professional Conduct and scale of professional charges and Setting up of Office as lay down by the COA and modified from time to time. Procedures to be followed by an architect for the safe running of the Practice. Awareness about Architectural Competitions and the Procedure lay down by the COA. Does and Don'ts for Architectural Competitions.

Module V Tendering and Contracts for Construction of Buildings-types, details of a tender document, procedure to be followed for calling tenders, tender analysis, election of the contractor and award of the work. Important terms such as EMD, Security Deposit, Defect Liability, Insurance etc. Types of the Contracts, legality of the Contract, important clauses of the Contract, role of the owner, architect and the contractor in fulfillment of the contract

Module VI Valuation of Fixed Assets-Introduction, Techniques, elements and factors affecting valuation, Methods, Types – renewal or lease/ extension of lease, standard rent, easement right, dilapidation, valuation of landed property, comparable cost of scale, purchase and mortgage, Capital gain tax, wealth tax, property tax and other taxes

Module VII Arbitration- Arbitration, Arbitrator, nature of arbitration, appointment, conduct, powers and duties of arbitrator and umpire amended from time to time. Procedure of arbitration, Claims – Fire insurance, damages with specific relevance to insurance. Injunction- Easement and its definition, interim, payment and mandatory injunctions.

Module VIII Acquisition and Ownership-Acquisition, Principles of acquisition, Purpose, Elements of acquisition – market value method and physical method of valuation.

Examination Scheme:

Components	A	CE	CT 1	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

COA documents.

Architect's Act 1972

Architectural Practice in India – Prof. Madhav Deobhakta

Construction Project Management – K.K. Chilkar

Construction Planning and Management – M.B. Dhir &

S.P. Ghilot References:

Professional Practice in India – S.K. Sahu

Code of Architectural Practice – B.M. Basu

Project Management with CPM and PERT – Moder and Philipese

Construction Method and Techniques – Mullick Mullind

Domain Electives - X

BAR 1003 Architectural Journalism-

Course Code: BAR 1003 Credit Units: 02 Teaching hours: 02

Course Objective:

Architectural Journalism aims to provide foundations for writing about architecture and design. This course deals with the basics of news writing, news structure, editing and presenting and discusses the elements and principals of writing. This course is intended to help those, who have inclination for writing to develop their skills to enable then to record, analyze and evaluate architecture both in its theoretical and practical forms. To understand the process of documenting a projects in the field of architecture.

Course Contents:

Module I: Journalism in general

Journalism in general, Theories of journalism, Techniques and processes, Contemporary Architectural journalism Module II: Basics of Writing

News – Source, Elements, News Values and Impact, Journalism – History, Focus on India, Journalism and Society

News Writing – Style and principals. Types of leads & Body text, News Structure – 5W 1H, Inverted Pyramid, Diamond and Hourglass style of news writing, Understanding your reader, Writing in perception of the user, Career in Architectural journalism

Module III: Writing about design and architecture

Overview of journalistic assignments. Design – Analysis and Writing, Writing review and critical analysis, Collecting information and presenting data, Elements of architecture: the form, the materials, the design concept or the key planning – Idea Creation, Documenting of projects, Brining Flair and Objectivity in Writing, Architectural Criticism, Writing on interior and construction, Writing on urban planning and sustainability, Interview and Personal Writing, Writing facts and establishing debate, Corporate Reporting, Press Meeting and press releases

Module IV: Editing and Presentation

Prof reading techniques – Languages, Grammar and Style, Electronic Copyediting, Writing Headlines and captions Writing an editorial and opinion , Style sheet, Constructing Narrative , Writing for various media – Print, Visual and Online, Lay-out – Newspaper and Magazine, Introduction to Publishing Softwares.

Module V: Magazine Writing

Introduction to magazine journalism and writing, Reviews of famous architectural magazine and writers, Principals of writing magazine story, Feature writing , Using pictures and graphics,

Project : Student must prepare two features; one for newspaper and other for the magazine about a project and an architect.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Miller, Randy & Wilber, Rick (2002). Modern Media Writing. Wadsworth

Publishing Sharma, Sangeet (2013). Architecture, Life & Me. Rupa & Co. Delhi.

Wray, Cheryl (1997). Writing for Magazines: A Beginner's Guide. McGraw Hill.

Architectural Criticism and Journalism by Majd Musa and Mohammad Al-Asad (1 March 2007)

Challenges to the Epistemology of Journalism: The Architecture of the Contemporary Mediascape (Economy and Society... by George Lazaroiu (15 August 2012)

Magazines:

Metropolis Magazine, architecture and design Plan,

architecture, design, art and urban planning

Surface Magazine, architecture, design, and fashion

BAR 1004 Building Economics& Legislation

Course Code: BAR 1004 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To understand Architectural projects as an economic function and understanding their evaluation techniques. To study the development controls as applicable to building design. To acquaint the students to compulsory building bye-laws and permits.

Course Contents:

Module I: Introduction

Concepts of economics: Utility, Demand & Supply, Wants, Cost, Value, Price, Micro and Macro Economics. Meaning and scope of Building Economics.

Module II: Project Costing and Benefits of buildings

Elements of cost components, initial costing, future costing, different types of costs and their impact on building projects.

Monetary and non-monetary benefits of buildings.

Module III: Economic performance of buildings

Types of economic performance; accounting for risks & uncertainty; techniques of performance analysis; cost benefit analysis, incremental analysis, bread-even analysis; life cycle cost analysis, rate of return analysis.

Module IV: Value Engineering & Feasibility Analysis

Concept, application to architectural projects, Real Estimate PRO-FORMA Analysis, Concept and types of feasibility, feasibility analysis.

Module V: Introduction

Introduction to the subject and role of various statutory bodies governing building works. Building terminology at various levels – Individual, Neighborhood, city level in terms of Master Plan and Development Plan. Applicability of bye-laws and their interpretation, information regarding recent changes in building bye-laws taking different examples of different cities like Delhi, Bhopal, Mumbai etc.

Module VI: Building Requirements

General building requirements, structural safety and services i.e. Fire safety norms, building construction requirements, Basement bye-laws and all the other related norms and standards in terms of electricity, water, telephone etc.

Module VII: Permit and Sanctions

Sanction requirements for buildings, Completion and submission of forms to various different government departments, fulfilling the requirements and all the necessary documents to be submitted, Get the clearance and NOC from the various agencies during and after the construction.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Text:

Building Economics for Architects, Thorbjoern Mann
The Economics of Building: A Practical Guide for the Design Professional, Robert E. Johnson
Design and Construction: Building in Value, Rick Best, Gerard de Valence

Best Value in Construction, Kelly
Design and the Economics of Construction, D.D. Jaggar, R.
Morton Delhi Building Bye-Laws – Nabhi Publications
D.D.A. – Delhi Master Plan

BAR 1005 Virtual Architecture

Course Code: BAR 1005 **Credit Units: 02** **Teaching hours: 02**

Course Objective:

To familiarize students with recent trends that led to development of virtual architecture with development of virtual reality and simulation technology

To train students in basic and advance softwares for architectural visualization

Course Contents:

Module I: Introduction

Definition of virtual architecture, historic developments tracing influence of virtual reality and simulation technology on the contemporary architecture, advantages and disadvantages, major movements, key architects and architectural examples of this era.

Module II: Basic Modeling and Rendering

3D Cad Modeling, Wire frame, mesh, solid and superficial Management of the 3d scene, Poly-mesh modeling and for dividing surfaces, 3D animation, Basic surface materials, Elaboration of the image, direct analysis and experimentation of the most solid and fruitful techniques of modeling and of management of 3D geometries in the AutoCAD

Module III: Advanced Module

BIM- Parametric modeling, Management of the 3d scene, Exterior and interior lighting, studio setup, Advanced surface materials, Creation of 3d models starting from a photogrammetric relief, Photorealistic rendering, 3D vegetation – environment design, Grammar of the direction, Elaboration of the image, Video compositing, Storyboard, Video mounting, Video post-production, Color correction, Multipass and animation, Visual effects, 3D spaces

Module IV: Advanced architectural visualization:

Tools for photorealism, During the advanced module of the Masters, students will explore techniques of BIM technology, modeling inside the Revit software.

Module V: Project

Students will work on the research of the photorealism and of the quality of the image inside the3DS Max software, also thanks to the addition of a VRay output engine: this is a couple that since many years is the real standard in many productive realities all around the world.

Examination Scheme:

Components	A	CE	CT	EE
Weightage (%)	05	25	20	50

Text & References:

Conway Lloyd Morgan, Giuliano Zampi, Virtual Architecture, 1995, McGraw-Hill Inc.,US Marta Jecu, Architecture and the Virtual, 2015, Intellect

Don Cameron, Greg Regnier, The Virtual Interface Architecture, 2002, Intel Press

Daniela Bertol, David Foell, Designing digital space: an architect's guide to virtual reality, 1997, Wiley

Michael Beigl, Disappearing Architecture: From Real to Virtual to Quantum, 2005, Springer Science & Business Media