

**INTEGRAL UNIVERSITY, LUCKNOW
FACULTY OF ARCHITECTURE AND PLANNING**

**B.Des.
(Product Design
&
Interior Design)**

Scheme of Teaching, Examination and Syllabus

(Session 2020-21)

Faculty of Architecture and Planning, Integral University, Lucknow
DEPARTMENT OF ARCHITECTURE, INTEGRAL UNIVERSITY, LUCKNOW
B. DES. (Product Design & Interior Design) SCHEME OF TEACHING AND EXAMINATIONS

w.e.f. 2020 -2021

B.Des.: I Semester

Subject Code	Subject Category	Subject Name	Teaching Hours/ Periods				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time (Hr)
			L	Tu	S/SS	Total			T	P/V	Total		
BD101	PC	Theory of Design-I	2	1		3	3	50	50		50	100	3
BD104	PD	Communication skills	1	1		2	2	60		40	40	100	3
BD108	CF	Basic Design-I	2		6	8	5	50	50		50	100	-
BD131	CF	Anthropometrics and Ergonomics	2	1		3	3	50	50		50	100	3
BD132	CF	History of Design-I	2			2	2	50	50		50	100	3
BD133	CF	Graphic Design	1		2	3	2	50	50		50	100	3
BD134	CF	Drawing & Rendering-I	1		4	5	3	60		40	40	100	3
BD135	CF	Workshop & Model Making	1		3	4	3	60		40	40	100	-
Total Credit's		Total	9	1	20	30	23					800	
		GRAND TOTAL											

Notes:

A semester contains approximately of 16 working weeks (90 workdays) each.

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B. DES. (Product Design & Interior Design) SCHEME OF TEACHING AND EXAMINATIONS

w.e.f. 2020 -2021

B.Des.: II Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD109	PC	Theory of Design-II	2	1		3	3	50	50		50	100	3
BD113	HS	Value and Ethics	1			1	1	50	50		50	100	3
BD117	CF	Creative Thinking	1		3	4	3	60		40	40	100	-
BD136	PC	History of Design-II	2			2	2	50	50		50	100	3
BD137	CF	Construction Techniques and Representation-I	2		1	3	3	50	50		50	100	3
BD138	AC	Computer Design and Digital Fabrication-I	1		3	4	3	60		40	40	100	3
BD139	AC	Drawing & Rendering-II	2		2	4	3	60		40	40	100	3
BD140	CF	Basic Design – II	2		6	8	5	50	50		50	100	-
BD141	HS	Environmental Science	1			1	1	50	50		50	100	3
Total Credit's		Total	14	1	15	30	24					900	
		GRAND TOTAL											

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B. DES. (Product Design & Interior Design) SCHEME OF TEACHING AND EXAMINATIONS

w.e.f. 2020 -2021

B.Des.: III Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD231	PC	Furniture Design-I	2		1	3	3	50	50		50	100	3
BD232	PC	Construction Techniques and Representation-II	2		1	3	3	50	50		50	100	3
BD233	AC	History of Design-III	2			2	2	50	50		50	100	3
BD234	DE	Elective-I: Interior Photography	2			2	2	50	50		50	100	3
BD235		Elective-I: Cultural Anthropology											
BD236		Elective-I: Story Telling and Narratives											
BD237		Elective-I: Visual & Performing Arts											
BD238	AC	Computer Design and Digital Fabrication-II	1		3	4	3	50	50		50	100	3
BD239	PC	Product Design Studio-I	1		5	6	4	60		40	40	100	-
BD240	PC	Interior Design Studio –I	1		8	9	5	60		40	40	100	-
BD241	PC	Development of Product Form & Process			3	3	2	60		40	40	100	-
BD242	PC	Mini Project –Craft Study 10 days (Minimum)					1					100	-
Total Credit's		Total	11		21	32	25					900	
		GRAND TOTAL											

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B. DES. (Product Design & Interior Design) SCHEME OF TEACHING AND EXAMINATIONS

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B.Des.: IV Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD243	PC	Furniture Design-II	2	1		3	3	50	50		50	100	3
BD244	PC	History of Design-IV	2			2	2	50	50		50	100	3
BD245	PC	Interior Services-I	2			2	2	50	50		50	100	3
BD246	DE	Elective-II: Product Photography	2			2	2	50	50		50	100	3
BD247		Elective-II: Representation of Spaces											
BD248		Elective-II: Vernacular Architecture & Interiors											
BD249		Elective-II: Works of Famous Designers											
BD250	PC	Rapid Prototyping	2		3	5	4	50	50		50	100	3
BD251	PC	Interior Design studio – II	1		8	9	5	60		40	40	100	-
BD252	AC	Layout Drawing & Display Techniques	1		2	3	2	60		40	40	100	-
BD253	PC	Product Design Studio-II	1		5	6	4	60		40	40	100	-
Total Credit's		Total	11	1	20	32	24					800	
		GRAND TOTAL											

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B. DES. (Product Design & Interior Design) SCHEME OF TEACHING AND EXAMINATIONS

w.e.f. 2020 -2021

B.Des.: V Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD331	PC	Interior Landscape	2	2		4	4	50	50		50	100	3
BD332	PC	Interior Services-II	2			2	2	50	50		50	100	3
BD333	DE	Elective III: Design Semiotics'	2			2	2	50	50		50	100	3
BD334		Elective III: Universal Design											
BD335		Elective III: Sustainable Design											
BD336		Elective III: Graphics & Animation											
BD337	OE	Open Elective – I: A	2			2	2	50	50		50	100	3
BD338		Open Elective – I: B											
BD339		Open Elective – I: C											
BD340		Open Elective – I: D											
BD341	AC	Working Drawing & Detailing	1		4	5	3	60		40	40	100	-
BD342	PC	Manufacturing & Assembly			4	4	2	60		40	40	100	-
BD343	PC	Product Design Studio-III	1		5	6	4	60		40	40	100	-
BD345	PC	Interior Design Studio - III	1		8	9	5	60		40	40	100	-
BD346	PC	Mini Project – 15 days (Minimum)					2	100				100	-
Total Credit's		Total	11	2	21	34	26					900	
		GRAND TOTAL											

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B.Des.: VI Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD347	AC	Lighting Colors & Interiors	2	1		3	3	50	50		50	100	3
BD348	PC	Product Branding & Identifying	2			2	2	50	50		50	100	3
BD349	AC	Estimation & Costing	2	1		3	3	50	50		50	100	3
BD350	OE	Open Elective – II: A	2			2	2	50	50		50	100	3
BD351		Open Elective – II: B											
BD352		Open Elective – II: C											
BD353		Open Elective – II: D											
BD354	AC	Product Packaging Design	2		3	5	4	50	50		50	100	3
BD355	PC	Product Design Studio-IV	1		5	6	4	60		40	40	100	-
BD356	PC	Interior Design Studio - IV	1		8	9	5	60		40	40	100	-
BD357	PC	Dissertation			4	4	2	60		40	40	100	
Total Credit's		Total	11	2	21	34	25					800	
		GRAND TOTAL											

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B.Des.: VII Semester

Subject Code	Subject Category	Subject Name	Teaching				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			Hours/ Periods						T	P/V	Total		
			L	Tu	S/SS	Total							
BD431	PC	Training					15	300		300	300	600	-
Total Credit's		Total					15					600	
		GRAND TOTAL											

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w.e.f. 2020 -2021

B.Des. : VIII Semester

Subject Code	Subject Category	Subject Name	Teaching Hours/ Periods				Credits	Continuous Assessments Marks	Examination Marks			Exam & Sessional	Exam Time
			L	Tu	S/SS	Total			T	P/V	Total		
BD432	PC	Thesis	3		24	27	15	300		300	300	600	-
BD433	PC	Professional Practice	2	1		3	3	50	50		50	100	3
BD434	DE	Elective IV: Entrepreneurship Development	2			2	2	50	50		50	100	3
BD435		Elective IV: Revitalization of Art & Crafts											
BD436		Elective IV: Interior Accessories & Product Design											
BD437		Elective IV: Applied Ergonomics											
BD438		Elective IV: Portfolio Development											
Total Credit's		Total	7	1	24	32	20					800	
		GRAND TOTAL											

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Faculty of Architecture and Planning, Integral University, Lucknow

LIST OF DEPARTMENTAL ELECTIVES WITH GROUPING - SEMESTER WISE									
ELECTIVE No	SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	S/SS	TCH	C
I	III	DE	BD234	Interior Photography	2	0	0	2	2
I	III	DE	BD235	Cultural Anthropology	2	0	0	2	2
I	III	DE	BD236	Story Telling and Narratives	2	0	0	2	2
I	III	DE	BD237	Visual & Performing Arts	2	0	0	2	2
II	IV	DE	BD246	Product Photography	2	0	0	2	2
II	IV	DE	BD247	Representation of Spaces	2	0	0	2	2
II	IV	DE	BD248	Vernacular Architecture & Interiors	2	0	0	2	2
II	IV	DE	BD249	Works of Famous Designers	2	0	0	2	2
III	V	DE	BD333	Design Semiotics'	2	0	0	2	2
III	V	DE	BD334	Universal Design	2	0	0	2	2
III	V	DE	BD335	Sustainable Design	2	0	0	2	2
III	V	DE	BD336	Graphics & Animation	2	0	0	2	2
IV	VIII	DE	BD434	Entrepreneurship Development	2	0	0	2	2
IV	VIII	DE	BD435	Revitalization of Art & Crafts	2	0	0	2	2
IV	VIII	DE	BD436	Interior Accessories & Product Design	2	0	0	2	2
IV	VIII	DE	BD437	Applied Ergonomics	2	0	0	2	2
IV	VIII	DE	BD438	Portfolio Development	2	0	0	2	2

Scheme of Teaching			
L	Tu.	S/SS	Total
2	1	-	3

B.Des. - I SEMESTER
BD101 Theory of Design-I

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
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OBJECTIVES

- Basic Design provides the framework for understanding design as a new language by sensitizing students to the conceptual, visual and perceptual issues involved in the design process.
- To understand the basics elements, principles of design and composition
- To understand the theories of colour and its impact on our lives.

CONTENTS

UNIT –I

INTRODUCTION TO DESIGN

Definitions and meaning of design, importance of design, examples of design from nature. Fundamental elements of design in 2-D and their definitions; point, line, shape, form, space, texture, value, colour and material. Introduction to the principles of design in 2-D and 3D - unity, balance, symmetry, proportion, scale, hierarchy, rhythm, contrast, harmony, focus, etc. ; use of grids, creating repetitive patterns.

UNIT – II

CONCEPTS OF GEOMETRY

Introduction to different 3-D forms and primitive forms, shapes and understanding the behavior when combined. Transformation of 2-D to 3-D.

UNIT – III

PRINCIPLES OF COMPOSITION

Principles of composition using grids, symmetrical/ asymmetrical, Rule Of Thirds, Center Of Interest, Gestalts Theory of Visual Composition.

UNIT- IV

THEORY OF COLOURS

Introduction –visible spectrum, coloured light, colour temperature, colour interaction, colour blindness. Color wheel – primary, secondary, tertiary colors, color wheel, color schemes color value, intensity, and modification of color hues – tints, shades, neutralization. Color charts – types, making and using. Color harmony, use of color harmony.

UNIT – V

USE OF COLOURS

Psychological impact of color – warm, cool and neutral colors, impact of specific hues, meanings of color, color and form, color and light, color and surface qualities, color and distances and scales.

Problems with color. Use of colors in various functional contexts – e.g. Residential interiors, Non Residential interiors. Use of color in special situations – out door/indoor spaces, accessories, art works etc.

SUGGESTED BOOKS

- Linda Holtzschue, *Understanding color, an introduction for designers*, Van Nostrand Reinhold, Newyork,1995.
- Hanks, A.David. *Decorative Designs of Frank Lloyd Wright*, Dover Publications, Inc. New York, 2003.
- Ching, Francis D.K. *Architecture Form, space, and Order*, 3rd ed. Van Nostrand Reinhold, New York, 2007.
- Hanks, A.David. *Decorative Designs of Frank Lloyd Wright*, Dover Publications, Inc. New York, 2003.

E BOOKS

- <http://www.edb.utexas.edu/minliu/multimedia/PDFfolder/DESIGN~1.PDF>
- <http://v5.books.elsevier.com/bookscat/samples/9780750660754/9780750660754.PDF>

MOOC

- <https://www.onlinestudies.com/Course- in- Fashion- Design/United- Kingdom/ICI/>

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	1	-	2

B. Des. - I SEMESTER

BD104 Communication Skills

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

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OBJECTIVES

- Enhance the communicative competence with focus on syntax and fluency
- Excel oral and written medium and prepare them for employability
- To prepare students to acquire understanding and fluency in English for professional work.

CONTENTS

UNIT

IMPORTANCE OF COMMUNICATION

Communication: Importance of Communication; Elements of good individual communication; organizing oneself; different types of communication; Barriers in the path of Communication

UNIT II

LISTENING SKILLS

Listening skills: Listening to conversation and speeches (Formal and Informal) Reading: Techniques of reading, skimming, Scanning, SQ3R technique

UNIT III

CREATIVE WRITING SKILLS

Creative Writing: Scope of creative writing; Report writing, Paragraph, Letter Writing (Formal and Informal), Memo, Circular, Preparation of Agenda, Minute of the meeting, Notice, Description of Projects and Features

Oral Report; Periodical Report; Progress Report; Field Report Preparation of minutes; Video conference; Tele conference / Virtual meeting

UNIT IV

SPEAKING SKILLS

Speaking: How to converse with people, How to communicate effectively; Language and grammar skills; Pronunciation drills, Phonetics, vowels, Diphthongs, consonants, Stress, Rhythm and intonation, Conversational skills Features of effective speech- practice in speaking fluently –role play – telephone skills– etiquette. Short Extempore speeches – facing audience – paper presentation – getting over nervousness –Interview techniques – preparing for interviews – Mock Interview – Body Language

UNIT V

DIGITAL COMMUNICATION

Impact of internet on communication; communication through computers; voice mail; broadcast messages; e- mail auto response; etc. Video Conference; Tele conference.

METHODOLOGY

- Suggested Reads: Daily Newspaper, E newspapers

SUGGESTED BOOKS

- *Professional speaking Skills* by Arun Koneru, Oxford University Press, 2017.
- Krishna Mohan & Meera Banerji: *Developing Communication Skills* Macmillan India
- ,2nd edition,2009

Faculty of Architecture and Planning, Integral University, Lucknow

- K. Ashwathappa: *Organizational Behavior, Himalaya Publishing House*
- Daniel Colman: *Emotional Intelligence, Bloomsbury publication India, 2010*

E BOOKS

- English Language – TN College Text Book -
<http://www.textbooksonline.tn.nic.in/books/dted/dted1-english.pdf>

MOOC

<https://www.mooc-list.com/course/business-english-basics-coursera>

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	35 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	6	8

**B. Des. - I SEMESTER
BD108 Basic Design-I**

Scheme of Examination

CA	T	P/V	Total
50	-	50	100

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OBJECTIVES

- Develop out of box thinking skill
- Understanding on various creative problem solving techniques

CONTENTS

UNIT – I

INTRODUCTION TO BASIC DESIGN

Definitions of creativity, understanding components of creativity, definitions of problem solving, theories of creativity, goals and objectives, value judgments, defining problems, information gathering, creative incubation, creative thinking and creative process.

UNIT- II

THINKING TECHNIQUES

Principles in generative, convergent, lateral, interactive, graphical thinking, check lists, analysis and synthesis simulation, action ability and implementations of intentions. Blocks in creative thinking.

UNIT- III

TOOLS AND TECHNIQUES OF CREATIVITY

Mind mapping, brain storming with related stimuli and unrelated stimuli, positive techniques for creativity, creative pause, Focus, Challenge, alternatives, concepts, sensitizing techniques, group or individual techniques.

UNIT – IV

PROBLEM STATEMENTS

Brain writing with unrelated stimuli, idea mapping, random input, story boarding exercises, problem solving techniques –brain storming, lateral thinking of De Bono

UNIT – V

CREATIVE SOLUTIONS

Applicable to designs – Design, Invention, opportunity, problems, improvement, planning, projects, conflicts. Simple Design exercises. Creative Design process – conceptual design, embodiment design, detail design, Iterations

Assignments : students are to design & produce at least 24 minor & 12 major basic products of day to day use and submit conceptual sketches along with a written report for internal and external assessment

SUGGESTED BOOKS

- Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships , Gail Greet Hannah, 2002
- Basic Principles of Design, Manfred Maier, Vol. 1- 4
- Comdex Fashion Design, Vol I, Fashion Concepts, Navneet Kaur, Vikas Pub, 2010
- Geoffrey Broadbent. Design in Architecture, London:D.Fulton
- Redefining Designing: Form to Experience
- Edward De Bono, Lateral Thinking
- Design Basics for Creative Results by Bryan L.Peterson, F&W Publications, Inc.

E BOOKS

- <https://www.pdfdrive.net/six-thinking-hats-e32030055.html>
- <https://books.google.co.in/books?id=I1o4DgAAQBAJ&lpq=PP1&dq=mooc%20courses%20on%20glass&pg=PT48#v=onepage&q&f=false>
- <http://asimetrica.org/wp-content/uploads/2014/06/design-thinking.pdf>

MOOC

- <https://iversity.org/en/courses/design-101-or-design-basics>

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

L	Tu.	S/SS	
2	1	-	3

B.Des. - I SEMESTER

BD131 Anthropometrics & Ergonomics

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

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OBJECTIVES

- The course provides a framework to analyze and design furniture forms scientifically and sensitizes the student's visual perception of furniture as a single form and as a system in a given interior space.

CONTENTS

UNIT –I

NEED FOR STUDY

Introduction to Ergonomics, Need for study of anthropometric and ergonomics. , Design today- Human aid to lifestyle.

UNIT – II

ERGONOMICS IN INDIA

Environmental factors influencing human performance, Ergonomics in India. Ergonomics/ human Factors fundamentals, Physiology (work physiology) and stress

UNIT – III

HUMAN PHYSICAL DIMENSION

Human physical dimension concern: Human body- structure and function, anthropometrics, Anthropometry: body growth and somatotypes, Static and dynamic anthropometry, Stand Posture-erect, Anthropometry landmark: Sitting postures, Anthropometry: squatting and cross-legged postures, Anthropometric measuring techniques, Statistical treatment of data and percentile calculations.

UNIT- IV

HUMAN BODY STRUCTURE AND FUNCTION

Posture and job relation, Posture and body supportive devices, Chair characteristics, Vertical work surface, Horizontal work surface , movement , work Counter.

UNIT – V

BEHAVIOUR AND PERCEPTION

Communication and cognitive issues, Psychosocial behavior aspects, behavior and stereotype, Information processing and perception, Cognitive aspects and mental workload, Human error and risk perception.

SUGGESTED BOOKS

- Bridger, RS: Introduction to Ergonomics, 2nd Edition, Taylor & Francis, 2003.
- Dul, J. and Weerdmeester, B. Ergonomics for beginners, a quick reference guide, Taylor & Francis, 2008.
- G.Salvendy (4TH edition), Handbook of Human Factors and ergonomics, John Wiley & Sons, Inc., 2012
- Singh, S (Edt), Ergonomics Interventions for Health and Productivity, Himanshu Publications, Udaipur, New Delhi, 2007

CONTINUOUS ASSESSMENT REQUIREMENTS

Faculty of Architecture and Planning, Integral University, Lucknow

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

L	Tu.	S/SS	
2	-	-	2

B. Des. - I SEMESTER
BD132 History of Design-I

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. The course focuses on the three dimensional forms, plan forms and ornamentation.

CONTENTS

UNIT – I

PURPOSE AND RELEVANCE OF ART DEVELOPMENT

A survey of history of art forms: pre historic times to present times: changing nature of art through time in terms of content: form and material.

UNIT – II

EXPLORATION OF ART FORMS

Study of traditional and contemporary art forms – painting, sculpture, architecture, decorative arts, design arts, digital art. Relationship between art and design from the earliest time.

UNIT – III

STUDY OF ORNAMENTS & ACCESSORIES

Ornaments & Accessories in Interior Design. Different types of Ornamentation & Accessories in the interiors. Study and evaluation of artefacts, historic examples and their applicability.

UNIT – IV

INTRODUCTION TO HERITAGE INTERIORS

Heritage Interiors Buddhist, Islamic and Hindu: Evolution of Interiors in different regions of India with examples. Heritage and identity at different spatial scales.

UNIT – V

NEW DIRECTIONS IN ART

Context for new directions in art in the late 19th and early 20th century - Impressionism - post Impressionism – Fauvism- Expressionism- Cubism –Dadaism – Surrealism - abstract art – Futurism - Constructivism – Suprematism -- De-Stijl -Abstract Expressionism - Pop art - Op art- new forms and media of art. Study of famous and influential Artists, Craftsmen and people who pioneered innovations in their own fields and their influence on design and other fields.

Works of Van Gogh, Dali, William Morris, Picasso, Da Vinci

SUGGESTED BOOKS

- Alan Barnard & Jonathan Spencer, Encyclopaedia of social and cultural anthropology, Routledge; 1 edition, 2002
- Niggel Rapport, Social and Cultural Anthropology: The Key Concepts, Routledge, 2000
- Elizabeth. D. Hutchinson, Sage publications, Dimensions of Human Behavior, person and Environment, 2007.
- Kumar Raj (Ed) Essays on Indian Art and Architecture. Discovery pub., New Delhi, 2003
- Ghosh. A (Ed). Jain Art and Architecture Vol 1-3. Bharatiya Jnanpith. New Delhi.
- Christine M. Piotrowski, Becoming an Interior Designer, John Wiley and Sons, 2003.

Faculty of Architecture and Planning, Integral University, Lucknow

- Henry Wilson, India: Decoration, Interiors, Design, Watson Guptill, First American edition, 2001
- Michael Freeman, India Modern, Periplus editions, 2005
- Sunil Sethi, Angelika Taschen, Indian Interiors, TASCHEN America Ltd; 25th ed. edition, 2009

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	2	3

**B. Des. - I SEMESTER
BD133 Graphic Design**

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course introduces the fundamental techniques of concept sketches, design development sketches, presentation sketches, presentation renderings and architectural drawing and develops the appropriate skills for visualization and representation.

CONTENTS

UNIT I

INTRODUCTION TO PENCIL EXERCISES

Knowledge about usage of different points of pencils, handling of pencils, practicing lines and tone building exercises.

UNIT II

EXERCISES OF OBJECT DRAWINGS, FUNDAMENTALS OF DRAWING

Natural geometric forms with emphasis on depth and dimension, detail & texture, sunlight & shadow.

Introduction – Fundamentals of drawing and its practice, introduction to drawing equipment, familiarization, use and handling of various media

UNIT III

GEOMETRICAL DRAWING

Drawing– Drawing sheet sizes, composition, fixing. Simple exercises in drafting, point and line, line types, line weights, straight and curvilinear lines, dimensioning, lettering, borders, title panels, tracing in pencil, ink, use of tracing cloth. Portfolio preparation.

UNIT IV

MEASURED DRAWING

Measuring and drawing to scale – scales, simple object, reduction and enlargement of drawings Architectural representation of landscape elements such as trees, indoor plants, planters, hedges, foliage, human figures in different postures, vehicles, street furniture etc.; by using different media and techniques and their integration to presentation drawings.

UNIT V

SKETCHING INDOOR OBJECTS

Still Life – Furniture, Equipment – Understanding Depth, light, shade, Shadow Etc. Outdoor Sketching: Natural Forms/Built Forms. Understanding variety in Forms. Sketching Human Form: Anatomy and Expressions – Graphical Representations

SUGGESTED BOOKS

- *Maureen Mitton, Interior Design Visual Presentation: A Guide to graphics, models and presentation techniques, 3rd edition, wiley publishers, 2007*
- *Mogali Delgade Yanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, ww.Norton & co., 2005*
- *Francis D.Ching, Design Drawing, Wiley publishers*
- *Moris, I.H.Geometrical Drawing for Art Students.*
- *Thoms, E.French. Graphics Science and Design, New York: MC Graw Hill.*

Faculty of Architecture and Planning, Integral University, Lucknow

- *Shah, M.G., Kale, C.M. and Patki, S.Y. Building Drawing: with an integrated approach to built environment, 7th ed. Tata Mc Graw Hill Pub., Delhi, 2000.*
- *Bies, D.John. Architectural Drafting: Structure and Environment Bobbs – Merril Educational Pub., Indianapolis.*

CONTINUOUS ASSESSMENT REQUIREMENTS

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	4	5

B. Des. - I SEMESTER

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

BD134 Drawing & Rendering-I

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The focus of this course is to impart skills related to the preparation of detailed drawings for Design execution.
- Hand and eye coordination while drawing
- Capacity to draw any object in 2D and 3D form

CONTENTS

UNIT I

GEOMETRICAL CONSTRUCTIONS

SCALES : Construction of plain scale and diagonal scale

CONIC SECTIONS : Construction of conic sections given the distance of focus from the directrix and eccentricity. Construction of ellipse – concentric circle method, rectangular method and intersecting arc method. Construction of parabola by rectangular method and by tangent method. Construction of hyperbola– given the asymptotes and a point on the curve

SPIRALS : Construction of Archimedean spiral and Logarithmic spiral

HELIX : Construction of cylindrical helix ,conical helix and square helical spring

UNIT II

PROJECTIONS

First angle projection Points and Lines : Orthographic projection of lines for any given condition, determination of true length ,traces and inclinations to the planes of projection of any given line Planes : Traces of planes , plane figure inclined to one or both the reference planes

UNIT III

SOLIDS

Solids : Simple solids in simple position , prisms, regular pyramids, tetrahedron, octahedron, cone, spheres and their combinations placed in different positions. Auxiliary projections of simple solids and their combinations. Change of position and auxiliary plane method.

UNIT IV

SECTIONS & DEVELOPMENTS OF SOLIDS

Intersection of surfaces : Line of intersection of two prisms , two cylinders and cone Section of solids : Section of simple solids by planes inclined. True shape of sections. Development of surfaces: Development of surfaces of simple solids, prisms, cylinders, pyramids, cones , spheres and truncated solids.

UNIT V

MATERIAL PROJECTIONS

Isometric Projection : Isometric scale, isometric view of planes , simple solids, truncated solids , combination of objects Perspective projection : Perspective projection of simple solids and their combinations by visual ray method and vanishing point method.

SUGGESTED BOOKS

- *N.D.Bhatt, 'Elementary Engineering Drawing', 53rd edition, Charotar, 2014*
- *Cari LaraSvensan and William Ezara Street, 'Engineering Graphics',*
- *K. Venugopal, 'Engineering Drawing and Graphics', New Age Publishers, 2004.*
- *S. Rajaraman, 'Practical Solid Geometry'*

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	35 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	3	4

B. Des. - I SEMESTER

BD135 Workshop & Model Making

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Understanding the properties of soft materials
- Ability to manipulate soft and pliable material to create new forms

CONTENTS

UNIT 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.

Introduction to the Mount Board/Paper/Boards for model making – types, properties etc. Hand building techniques on different planes - making rigid forms like, cubic, spherical, pyramidal shaped forms, depiction of steps, free forms, sculptures, etc.

UNIT -II

MATERIALS AND TECHNIQUES (CLAY)

Ceramics – clay/ plaster of Paris : Introduction to model making, Need; role of scale models in design: general practices - The potter’s wheel – kneading the clay, function of hands in throwing. Learning basic techniques in making different objects like bowl, plate, cylinder, vase, etc. Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Ceramic materials used for model making – clay, types and mixtures, properties etc. Hand building techniques- coiling, hand building with clay strips- making a small sculpture in Relief work – addition - making a mural, scooping – tile work. .

UNIT - III

MATERIALS AND TECHNIQUES (WOOD)

Wood : Working with wood and wood derivatives to understand material parameters. Wooden joinery and its strength, Wood polishes and other finishes – colour and surface quality. Making of elements of various scales in the built form, such as, interior space making elements, furniture forms, various products, Art & Artifacts by using wood. Understanding the material and tools by making objects which allow students to explore the forms, surfaces, textures and patterns. Explore different joinery, support conditions, and woven surfaces.

UNIT - IV

MATERIALS AND TECHNIQUES (METAL)

Metal : Types of metals, properties of metals, definitions of terms with reference to properties and uses of metals, various methods of working with metals, fixing and joinery in metals, finishing and treatment of metals., finishes on metals. Standard specifications. Metals in built form activity – horizontal, vertical and inclined surfaces – in interior environment elements- products and furniture forms - doors, windows, grilles, railing, stair etc. Metals and other materials – form and joinery.

UNIT -V

MATERIALS AND TECHNIQUES (TEXTILES)

Textiles – Weaving & printing : Introduction to fibers and yarns, table loom and floor loom, preparing warp, setting up loom for weaving. Basic weaves and their variations. Variation weaves and design quality, weaves as light

Faculty of Architecture and Planning, Integral University, Lucknow

controlling device, weaves and its quality for upholstery, curtains and floor coverings, Rugs and durries – motifs design, patterns and color variations. Development of textile design in different cultures from primitive art to contemporary designs. Criteria of design of the elements and principles of textile design. Analysis of a motif, developing repeat as a basic unit of design in textile printing. Printing – developing block, understanding the material used, colors, types and their mixing process, various color printing. Screen printing – design evolution for wall hangings, preparing screen and understanding the technique, printing on paper and printing on fabric.

SUGGESTED BOOKS

- *Carol Stangler, The crafts and art of Bamboo, Rev. updated edition, Lark books, 2009.*
- *Dr Angelika Taschen, Bamboo style: Exteriors, Interiors, Details, illustrated edition, 2006.*
- *Lonnie Bird, Jeff Jewitt, Thomas lie- Nielsen, Taunton's Complete Illustrated Guide to Woodworking, Taunton, 2005.*
- *Peter Korn, Wood working Basics : Mastering the essentials of craftsmanship, Taunton , 2003*
- *Liz Gibson, Weaving Made Easy: 17 Projects Using a Simple Loom (Paperback), Interweave press, 2008*
- *Deoborah Chandler, Learning to weave, Revised edition, Interweave press, 2009.*
- *textiles, Crowood press, 2005*
- *Fabrics: A guide for architects and Interior Designers, Marypaul Yates, Norton publishers, 2002.*
- *Materials for Interior Environments, Corky Bingelli, John wiley and sons, 2007*

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	1	-	3

B. Des. – II SEMESTER
BD109 Theory of Design-II

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Understanding the use of Principles and Forms in Product Designing
- Understanding on Typography and Basic Geometric Shapes

CONTENTS

UNIT – I INTRODUCTION

Primary elements of design – Point, Line, Plane, Volume. Primary forms, properties of form, transformation of forms - dimensional transformation, subtractive, additive forms, organization of additive forms - Articulation of forms. Space defining elements - horizontal, vertical, openings in space defining elements, Spatial relationship, Spatial organization.

UNIT- II PRINCIPLES OF DESIGN

Exploration of the basic principles of composition such as Proportion, Scale, Balance, Rhythm, Unity, Contrast, Character with garment examples. Ordering Principles such as Axis, Symmetry, Hierarchy, Datum, Rhythm & Repetition..

UNIT- III ORGANISATION OF FORMS

Spatial Relationships: i) Space within space, ii) Interlocking spaces, iii) Adjacent spaces, iv) Space linked by a common space b) Spatial Organization: influencing factors and their types i) Centralized, ii) Linear, iii) Radial, iv) Clustered, v) Grid c) Articulation of forms and spaces types: i) Edges and corners, ii) Surface. A Project on Creation of forms & spaces using the principles learnt.

UNIT – IV PRINCIPLES OF COMPOSITION; TYPOGRAPHY & GEOMETRY

Unity, harmony and specific qualities of design to include dominance, punctuating effect, dramatic effect, fluidity, climax, accentuation and contrast with garment examples.
Basics of Calligraphy and typography, Understanding structure and proportion of types of (Roman Serif and San Serif).
Basic solid Geometry

UNIT – V CIRCULATION

Function of building circulation components of building circulation - The building approach, The building entrance, configuration of the path, path space relationship, form of circulation space with examples. Simple circulation diagram for buildings

SUGGESTED BOOKS

- Francis D. K. Ching, 'Architecture - Form, Space and Order', Van Nostrand Reinhold Company, 2007
- V.S.Pramar, 'Design Fundamentals in Architecture', Somaiya Publications, New Delhi, 2007
- Leland M.Roth, 'Understanding Architecture', Routledge; 3 edition, 2013

E BOOKS

- <http://www.edb.utexas.edu/minliu/multimedia/PDFfolder/DESIGN~1.PDF>
- <http://v5.books.elsevier.com/bookscat/samples/9780750660754/9780750660754.PDF>

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	-	1

B. Des. - II SEMESTER

BD113 Values & Ethics

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Understanding values and its importance in current scenario
- Understanding human rights and identifying the social evils
- Spreading awareness amongst others to help curb injustice and spread human values
- To provide guiding principles and tools for the development of the whole person, recognizing that the individual is comprised of Physical, Intellectual, Emotional and Spiritual dimensions.

CONTENTS

UNIT I

NEED FOR STUDY

Value Education—Introduction – Definition of values – Why values? – Need for Inculcation of values – Object of Value Education – Sources of Values – Types of Values: i) Personal values ii) Social values iii) Professional values iv) Moral and spiritual values) Behavioral (common) values

UNIT II

PERSONAL VALUES

Personal values – Definition of person – Self- confidence – Relative and absolute confidence, being self- determined, swatantrata (loosely equivalent to freedom). Self- discipline – Self Assessment – Self- restraint –Self motivation – Determination – Ambition – Contentment Self- respect and respect to others; expression of respect

UNIT III

SOCIAL VALUES

Social values – Units of Society - Individual, family, different groups – Community – Social consciousness – Equality and Brotherhood – Dialogue – Tolerance – Sharing – Honesty Responsibility – Cooperation; Freedom – Repentance and Magnanimity. Peer Pressure – Ragging - examples - making one's own choices

UNIT IV

PROFESSIONAL VALUES

Professional values – Definition – Competence – Confidence – Devotion to duty –Efficiency – Accountability – Respect for learning /learned – Willingness to Learn- Open and balanced mind – Team spirit – Professional Ethics – Willingness for Discussion; Difference between understanding and assuming Time Management: Issues of planning, as well as concentration (and aligning with self- goals) Expectations from yourself. Excellence and competition, coping with stress, Identifying one's interests as well as strengths.

UNIT V

BEHAVIOURAL VALUES

Behavioral values – Individual values and group values. Anger: Investigation of reasons, watching one's own anger; Understanding anger as: a sign of power or helplessness, distinction between response and reaction. Right utilization of physical facilities. Determining one's needs, needs of the self and of the body, cycle of nature. Relationship with teachers. Inside the class, and outside the class, interacting with teachers. Complimentary nature of skills and values. Distinction between information & knowledge Goals: Short term goals and long term goals; How to set goals; How to handle responsibilities which have to be fulfilled while working for goals

SUGGESTED BOOKS

Faculty of Architecture and Planning, Integral University, Lucknow

- Values (Collection of Essays)., Published by : Sri Ramakrishna Math., Chennai — (2008)
- Prof. R.P.Dhokalia., Eternal Human Values NCRT – Campus Sri Aurobindo Marg., New Delhi
- M.G.Chitakra: Education and Human Values, A.P.H.Publishing Corporation, New Delhi, 2003
- Holy Books of all religions

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	3	4

**B. Des. - II SEMESTER
BD117 Creative Thinking**

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Developing Problem solving skill
- Understand the various techniques of out of box thinking and selecting appropriate one based on the circumstance and situation

CONTENTS

**UNIT I
CREATIVITY**

Explanation on creativity, Icebreaker: Thinking Outside the Box, Combining Ideas: How to combine ideas for creative thinking breakthroughs, Combining ideas is one of the fundamental exercises in creative thinking.

**UNIT II
CREATIVE THINKING TOOLS**

Thinking tool no. 1: Kick Cards, 2: The Inverse, 3: Double Six Good Bad Interesting: Get creative thinking with the G.B.I. exercise – Dr Edward de Bono. Brainstorming,

**UNIT III
PRINCIPLES OF CREATIVITY**

Creative Problems: Defining creative problems and solutions. Diffusion: Spreading ideas through social networks. Divergence and convergence: Staying open and staying focused. Exploration: Going where no one has gone before. Forced association: Banging things together to create new things. Ground Rules: Shared rules that enable safe creativity. Jumping: Jumping to new idea domains. Practice: Build your 'creative muscle' with regular practice. Questioning: Asking things to get the mind going.

**UNIT IV
TOOLS FOR DEFINING THE PROBLEM**

CATWOE, Challenge, Chunking, Context Map, A Day in the Life of., Is – Is not, how to: The Kipling method (5W1H), Positives, Negatives, Problem Statement: achieve. Purposing: Reversal: Storyboarding: Visioning: Assumption Busting: Brainstorming: Brain mapping. Essence: Forced Conflict: Lotus Blossom: PSI: Problem + Stimulus = Idea, Random Words: Modeling: Morphological Analysis, Post - Up: Provocation: Role - play: Reverse Brainstorming: , SCAMPER: , Storyboarding: , Visioning: , Wishing

**UNIT V
TOOLS FOR SELECTING IDEAS**

Concept Screening: , The Hundred Dollar Test: , Negative Selection: , NUF Test: Check idea is New, Useful and Feasible., PINC Filter: , Swap sort:

SUGGESTED BOOKS

- Rod Judkins, The Art of creative thinking, Sceptre Pub, 2015

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B. Des. - II SEMESTER
BD136 History of Design-II

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. The course focuses on the three dimensional forms, plan forms and ornamentation.

CONTENTS

UNIT I

ELEMENTS OF STYLE

Elements of style and determinants of Interior environments in Ancient Civilization, Classical world & the Middle ages : emphasis shall be on Architectural elements, furniture, decorative arts, colours & materials. Egyptian - Indus Valley Civilization - The ancient Near East - Samarians, Babylonians, Assyrians, Persians

UNIT II

CLASSICAL WORLD

Greek, Roman architecture and Eastern influences - China and Japan.

UNIT III

THE MIDDLE AGES

Early Christian and Byzantine, Romanesque and Gothic, Renaissance in Italy, Spain, France and England, Baroque, Rococo, Neoclassicism-Boulle, Ledoux.

UNIT IV

INDIAN ARCHITECTURE AND INTERIORS

Hindu, Islamic and Buddhist architecture, Secular architecture of the princely states like Rajasthan, etc.

UNIT V

STUDY OF VERNACULAR ARCHITECTURE AND INTERIORS

Jammu and Kashmir, Southern India, Gujarat, , Himachal Pradesh , states of North & eastern India, Maharashtra, Uttar Pradesh, Orissa etc.

CONDUCT OF EXAMINATION

SUGGESTED BOOKS

- John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005. Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.
- Giedion Sigfried, Space, Time and Architecture: The growth of a new tradition, 5th ed. Harvard University Press, Cambridge, 2008

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	1	3

B. Des. - II SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD137 Construction Techniques & Representation-I

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course provides information on the properties, management, specifications, use, application and rates of the materials used in the interiors.
- Materials to be studied based on –
- Physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, walls, doors, windows, staircase, built in furniture, partitions and other interior design components.
- Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material and workmanship, specification etc.

CONTENTS

UNIT I

HARDWARE

Hardware & Accessories : all hardware required for residences, offices, other public & private spaces, etc., including all types of hinges, drawer slides, handles, locks, wire managers, etc., accessories for toilet, kitchen, office, glass patch fittings, profiles, etc.,

UNIT II

STONES

Stones : Igneous, metamorphic & sedimentary – classifications, types, properties, availability, applications

UNIT III

RUBBER

Rubber – Natural rubber, latex, coagulation, vulcanizing and synthetic rubber- properties and application

UNIT IV

PLASTIC

Plastics – Types, thermosetting and thermo plastics, resins, common types of moldings, fabrication of plastics, polymerization and condensation. Plastic coatings reinforced plastic, plastic laminates – properties, uses and applications.

UNIT V

PARTITIONS AND FALSE CEILING

Partition walls : all types of partitions – full height, half & dwarf, double skinned, single skinned, frameless glass, etc., Wall paneling : plywood, leather, acoustic boards, etc., False Ceiling : all types, with full system, insulation, acoustical, etc.,

SUGGESTED BOOKS

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Technique and Methods of Construction, 19th ed. Dhanpat Rai Pub., New-Delhi, 2000
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	3	4

B. Des. - II SEMESTER

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

BD138 Computer Design & Digital Fabrication-I

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To orient the student to create two and three-dimensional objects in space with special emphasis on presentation and visualization of interiors using rendering techniques using CAD. Objectives of the course: To explore computer modelling techniques using CAD.

CONTENTS

UNIT I

MS OFFICE

Computer Orientation, Microsoft word, Microsoft excel, Microsoft presentation software, scanning and MS Paint

UNIT II

BASIC OUTLINE , AXIS POINTS

Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file.

Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file.

UNIT III

UNITS, LIMITS AND LAYERS

Setting up the drawing environment – setting the paper size, setting units, grid limits, drawing limits, snap controls. Use of paper space and model space. Basic commands dealing with drawing properties: Layer control, change properties, line weight control, etc.

UNIT IV

DIMENSIONS, CALCULATIONS AND GROUPING

Inquiry methods: Using data base information for objects, calculating distance, angle, areas etc. Dimensioning commands and blocks: Dimensioning the objects in linear, angular fashions along with quick time dimensioning etc. Creating and working with blocks, creating symbols, use of blocks in creating a layout, of a residential area- one exercise to be done as lab assignment.

UNIT V

BASICS OF ADOBE PHOTOSHOP

Tool box (Moving , marquee tool), Magic wand selection, Crop tool, Paint Brush, Opacity, Text Styles, Blue tool, Sharpening Tool, Colour correction, Layers, moving Tool, Masking Tool.

SUGGESTED BOOKS

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3DS MAX comprehensive tutorial resources Wiley 2014.
- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014.
- Computer Design & Digital Fab
- Auto Desk Auto cad 2017 for Architecture, Sybex , 2016

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	35 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	2	4

**B. Des. - II SEMESTER
BD139 Drawing & Rendering-II**

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The focus of this course is to impart skills related to the preparation of detailed drawings for Interior Design execution.

CONTENTS

UNIT I

FINISHES & STAIRCASE

Wall finishes, wall plastering, chamfered corners, dado, wall cladding, fixing of doors & windows, etc Details of floor finishes : tiling/ stone flooring, wooden flooring, access flooring Plans, sections & elevations of staircases : Types of staircase, different materials – RCC, wood, steel staircase, etc

UNIT II

WOODWORK REPRESENTATION

All woodworks : joinery, types of doors, windows, etc Detailed drawing of Partition walls : all types of partitions – full height, half & dwarf, double skinned, single skinned, frameless glass, etc
Wall paneling : plywood, leather, acoustic boards, etc
False Ceiling : all types, with full system, insulation, acoustical, etc

UNIT III

RESIDENTIAL FURNITURE

Detailed plan, sections, elevations and isometrics of the standard residential furniture like:
Sofas – double, single seat Tables – peg, nested, dining, etc Chairs –study, dining, sofa chairs, etc Beds with side tables – TW frame, box frame, with storage, etc.

UNIT IV

STORAGE REPRESENTATION

Storage & display units : dressing table units, showcase, china cabinets, home bar, entertainment units, book case, tall boy units, chest of drawers, etc Bar counter with bar stool. Detailed plan, sections, elevations with one point perspectives of kitchen with details of each units, etc .

UNIT V

OFFICE FURNITURE

Detailed plan, sections, elevations and isometric views of office furniture – hierarchy of work stations, tables, return units, filing units, Reception table, etc.

SUGGESTED BOOKS

- Shah, M G & others, Building Drawing : An Integrated approach to build Environment, 5TH edition, Tata McGraw Hill Publications Company Ltd, New Delhi, 2012
- Kilmer, Working Drawings & Details for Interiors, John Wiley & Sons., 2009

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	35 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	6	8

B. Des. - II SEMESTER

BD140 Basic Design-II

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Space Planning provides a specific design methodology for understanding the nature of spaces, scales and space within a space along with elements and organization.

CONTENTS

UNIT I

BASIC ANTHROPOMETRICS

Average measurements of human body in different postures – its proportion and graphic representation, application in the design of simple household and furniture. Role of mannequins in defining spatial parameter of design. Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions.

UNIT II

INTRODUCTION TO DESIGN METHODOLOGY

Detailed study of residential spaces: such as, living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, etc. Case study of existing residential spaces and the analysis of the spaces therein, to be taken up. Preparing user profile, bubble and circulation diagrams.

UNIT III

VISUAL ANALYSIS DESIGNED SPACES

Visual analysis designed spaces of noted for comfort and spatial quality; analysis of solid and void relations, positive and negative spaces. Integration of spaces and function in the design of kiosk for - traffic police, ATM center, etc; stalls inside a shopping mall, - jewellery stall, flower stall, ice cream stall, etc; booths - bus ticketing booth, smokers' booths, etc.

SUGGESTED BOOKS

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 3rd edition 2009.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	-	1

B. Des. - II SEMESTER

BD141 Environmental Science

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To understand our natural resources, ecosystem and the biodiversity of the planet
- Obtain basic knowledge on environment pollutions, its types and pollutants
- Understanding the Social Issues and the impact of Population on the Environment

CONTENTS

UNIT I

INTRODUCTION TO WORLD ART & CULTURES

Definition, scope and importance, of environmental studies, Need for public awareness. Renewable and non- renewable resources: Natural resources and associated problems. Forest resources: Water resources: Mineral resources : Food resources : Energy resources: Land resources :

UNIT II

ECO SYSTEMS

Structure and function of an ecosystem, Concept of an ecosystem , Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Types of Ecosystem

UNIT III

BIODIVERSITY AND ITS CONSERVATION

Bio- geographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Hot- spots of biodiversity. Threats to biodiversity. Endangered and endemic species of India. Conservation of biodiversity

UNIT IV

ENVIRONMENTAL POLLUTION

Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste Management, Disaster management: floods, earthquake, cyclone and landslides.

UNIT V

SOCIAL ISSUES AND THE ENVIRONMENT

Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Wasteland reclamation. Consumerism and waste products. Environment 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

SUGGESTED BOOKS

- Cunningham, W.P. Cooper T.H. Gorhani, E & Hepworth, M.T. 2001,Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
- Text Book for environmental Studies For UGC, Erach Bharucha, 2004

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	1	3

B. Des. - III SEMESTER
BD231 Furniture Design-I

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Developing Problem solving skill
- Understand the various techniques of out of box thinking

CONTENTS

UNIT I

FUNCTIONAL AND FORMAL ISSUES IN DESIGN

Study and evaluation of popular dictums such as “Form follows function”, “Form and function are one”, “God is in Details”, “Less is more” or “Less is bore” etc.

Evaluation of visual design: study of Gestalt theory of design – law of closure, law of proximity, law of continuity etc. Typology of furniture with respect to the different states in India.

UNIT II

ERGONOMICS AND HUMAN FACTORS

Human factors, engineering and ergonomic considerations: Principles of Universal Design and their application in furniture design,

UNIT III

EVOLUTION OF FURNITURES

Evolution of furniture from Ancient to present: Various stylistic transformations. Furniture designers and movements for various types of furniture.

UNIT IV

ROLE OF FURNITURE

Furniture categories – role of furniture in interior design, exploration of the idea of furniture as elements of living units, education institutes, health facilities, street elements office, educational institutes, banks, stores, street furniture, etc.

UNIT V

SEATING

Seating Design: Different types of seating with Functionality, Aesthetics , Style, Human factors and ergonomics

ASSIGNMENT

- Design with wood, metal and combination of materials. Drawings, details. Market survey of available products and economics of products.
- Design of furniture for upper middle, middle and lower middle income groups - elements of living units, educational institutes, health facilities, street elements etc.
- Exploration of wood, metal, glass, plastics, FRP, etc as materials for furniture design – traditional and modular. Cost criteria of furniture design.

SUGGESTED BOOKS

- Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
- Jim Postell, Furniture Design, Wiley publishers, 2007.

Faculty of Architecture and Planning, Integral University, Lucknow

- Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to
- Nineteenth-Century Europe, Wiley publishers, 2005.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	1	3

B. Des. - III SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD232 Construction Techniques & Representation-II

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course provides information on the properties, management, specifications, use, application and rates of the materials used in the interiors.
- Materials to be studied based on –
- Physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, walls, doors, windows, staircase, built in furniture, partitions and other interior design components.
- Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material and workmanship, specification etc.

CONTENTS

UNIT I

TERRACOTTA AND TILES

Roofing tiles : terracotta, sheets and fibre boards – properties and application.

Flooring tiles : Various natural as well as artificial flooring materials like, ceramic tiles, full body vitrified tiles, terracotta tiles, glass mosaic tiles, stone tiles, Mosaic, Rubber, Linoleum, PVC and PVA flooring, their Properties, other uses and applications in the interiors..

UNIT II

GLASS AND GLASS PRODUCTS

Glass and glass products – Composition and fabrication of glass, classification, all types of glass annealed, float, mirrored, tinted, etc. – including wired glass, fiber glass, laminated glass, glass blocks, etc - their properties and uses in buildings. Commercial forms available – their physical and behavioral properties.

Application of glass : tools and technology of its application in built forms – glass doors, partitions, etc. Material and workmanship, specifications.,

UNIT III

FABRICS AND OTHER FURNISHING MATERIALS

Fabrics and other furnishing materials – fibers – natural – silk, cotton, linen, damask, furs, etc: artificial - polyester, nylon, rayon, etc , textiles, fabric treatments, carpets, durries, tapestries, Drapery, upholstery, wall coverings, etc. – properties, uses and application in the interiors.

UNIT IV

SOFT FURNISHING

Details of soft furnishings : types of Draperies, curtains, blinds, types of stitches, valences, linings, tiebacks, hanging details, etc.

UNIT V

ADHESIVES

Adhesives – Natural and Synthetic, their varieties, thermoplastic and thermosetting adhesives, epoxy resin. Method of application, bond strength etc.

SUGGESTED BOOKS

- Shah, M G & others, Building Drawing: An Integrated approach to build Environment, 5th edition, Tata McGraw Hill Publications Company Ltd, New Delhi, 2017
- Kilmer, Working Drawings & Details for Interiors, John Wiley & Sons..

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)

25 Marks

Regularity (Attendance)

10 Marks

Mid Term Test

15 Marks

Total

50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B. Des. - III SEMESTER
BD233 History of Design-III

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors.

CONTENTS**UNIT I****INDUSTRIAL REVOLUTION**

Reviewing Industrialisation :- Industrial revolution and its influence on social, economic conditions of that period, Scientific and technological progress, invention of new materials. –Joseph Paxton – Gustav Eiffel etc
An overview of Art and Crafts movement in Europe and America.

UNIT II**ANCIENT HISTORY**

Indian Colonial Architecture-Portuguese, French and British : The styles and trends of architecture and design brought to India and their evolution – Their impact on architecture and design in India – The characteristics of Colonial Architecture with examples from Goa-Bom Jesus Cathedral Complex-Old Goa- Fountainahs , Puducherry, Mahe and Edwin Lutyen etc.,

UNIT III**MODERNISM**

Impressionism –Expressionism – Cubism – Neoclassicism – Neoplasticism Suprematicism – Art Noveau Constructivism – Futurism – Post modernism- Post- Post Modernism– Deconstructivism Antonio Gaudi, Victor Horta, Charles Renee Mackintosh, Le Corbusier.

UNIT IV**AFTER MODERNISM**

Critical regionalism, Bauhaus, International style, Post Modernism.-Walter Gropius.

UNIT V**WORKS OF ARCHITECTS**

Works of Foreign Architects /Artisans in India and their influence – Edwin Lutyens, Le Corbusier, Louis Khan, Philip Johnson. Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal, , Joseph Allen Stein

SUGGESTED BOOKS

- John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005. Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.
- Elaine, Michael Dywer, Christopher Mackinnon, Norman A. J. Berisford Denby , A History of Interior Design, Rhodex International, 2000.
- Giedion Sigfried, Space, Time and Architecture: The growth of a new tradition, 5th ed. Harvard University Press, Cambridge, 2008

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B. Des. - III SEMESTER

BD234 Elective-I : Interior Photography

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To help the student understand the principles and technology of photography.
- To enable the student to understand the applications of photographs in interior

CONTENTS

UNIT – I PRINCIPLES OF COMPOSITION

Rule of thirds, perspective-worm's eye view, normal eye view, bird's eye view, one-point perspective, two-point perspective, three-point perspective, exercises in composition

UNIT – II PRINCIPLES OF PHOTOGRAPHY

Technical definitions, understanding a camera, anatomy of a SLR camera, technical setting in a SLR camera, different types of lenses

UNIT – III PRINCIPLES OF INTERIOR LIGHTING

Technical definitions, lighting sources, types of lighting fixtures, types of lamps, calculating lighting levels, flash photography, types of flashes, controlling lighting levels with flash photography Exercise in interior lighting photography with artificial light and black and white photos

UNIT – IV PRINCIPLES OF COLOUR

Color rendering in photographic medium, color rendering in photographs under different lighting condition, lighting colors and its effect on a photograph, color filters in a camera Exercise on color photography of interiors

UNIT – IV INTEGRATION

Project work/exercise in integrating all prior units

SUGGESTED BOOKS

1. Point view- The art of architectural photography , E.Manny A Ballan, VNR
2. Professional photography –photographing buildings, David Wilson, Rotovision

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B. Des. - III SEMESTER

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

BD235 Elective-I: Cultural Anthropology

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Understanding of Art/craft forms as design elements and its relevant application in the modern society.
- Modernization of old craft technology for better forms for interior use.

CONTENTS

UNIT- I ETHNOGRAPHY

Introduction to Ethnography, relation to design & product, relation to the user, relation to culture, language, history.

UNIT- II HUMAN BEHAVIOUS

Understanding Human Behavior as a Mechanism for Change, Application of Ethnography and Use in Industry,

UNIT –III RELEVANCE

Relevance of Anthropology in Ethnology, Cultural anthropology, relevance of Ergonomics to Ethnography

UNIT –IV ISSUES

Problems of ethnocentrism, seeing things from someone else’s point of view, Linking Ethnography & day to day Design

UNIT- V METHODOLOGY

Methods in the study of Ethnography, People’s behavior to be studied in everyday context, the approach to data collection, the analysis of the data, Rapid ethnography Ethnographic Field Methods : case studies, analysis & inferences Every student shall take up one project and do a complete research and design a new product or re-design a day to day product. The report shall be assessed periodically & at the end of the semester.

SUGGESTED BOOKS

- Rothstein, P. (2010). Ethnographic research: teaching a young professional old tricks. Innovation. 19(4): 32.
- ROBERT M. EMERSON, RACHEL I. FRETZ, AND LINDA L. SHAW Writing Ethnographic Fieldnotes, 2nd Edition, © 2011 Chicago Guides to Writing, Editing, and Publishing
- M Hammersley, P Atkinson – 2007 Ethnography: Principles in practice, 3rd edition, Routledge
- Kurt A. Raaflaub (Editor), Richard J. A. Talbert (Editor) :Geography and Ethnography: Perceptions of the World in Pre-Modern Societies, January 2013, Paperback, Wiley

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B. Des. - III SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD236 Elective-I: Story Telling and Narratives

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES**CONTENTS****UNIT 1: STORY**

Story, narrative and meaning making, metaphors

UNIT 2: OBJECTIVE

Premise and problem statement, Context

UNIT 3: PROTAGONIST

Characters and personas, examples of Don Quixote, Karna

UNIT 4: CHAIN OF EVENTS

Plot and Scenarios

UNIT 5: DYNAMICS

Relationship between problems, need and conflict, rationalization of need, rationalization of conflict, Action and Resolution

SUGGESTED :

- Mike Korolenko and Bruce Wolcott, Storytelling and Design: Media Literacy for the Digital Age, Pearson Learning Solutions, 2005
- Marie-Laure Ryan (editor), Narrative across Media: The Languages of Storytelling, University of Nebraska Press, 2004
- Kristin M. Langellier and Eric E. Peterson, Storytelling in Daily Life: Performing Narrative, Temple University Press, 2004

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B. Des. - III SEMESTER

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

BD237 Elective-I: Visual & Performing Arts

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

CONTENTS

UNIT –I NEED FOR STUDY

Why study media? Understanding mass media. Characteristics of mass media. Effects of mass media on individual, society and culture – basic issues. Power of mass media. Media in Indian society. Definition, nature and scope. Function of mass media.

UNIT –II AUDIENCE ANALYSIS

Media Audience analysis (mass, segmentation, product, social uses). Audience making. Active Vs Passive audience: Some theories of audience - Uses and Gratification, Uses and Effects, etc.

UNIT- III MEDIA AS TEXT

Media as text. Approaches to media analysis - Marxist, Semiotics, Sociology, Psychoanalysis. Media and realism (class, gender, race, age, minorities, children, etc.)

UNIT- IV MEDIA AND SOCIETY

Media as consciousness Industry. Social construction of reality by media. Rhetoric of the image, narrative, etc. Media myths (representation, stereotypes, etc.) -- Cultural Studies approach to media, audience as textual determinant, audience as readers, audience positioning, establishing critical autonomy

UNIT –V MEDIA AND CULTURE

Media and Popular culture — commodities, culture and sub-culture, popular texts, popular discrimination, politics and popular culture, popular culture Vs people's culture, celebrity industry- personality as brand name, hero-worship, etc. Acquisition and transformation of popular culture

SUGGESTED BOOKS

- Media Literacy. Sage Publications Potter, James W (2016).
- Media-Making: Mass Media in a Popular Culture. Sage Publications Grossberg, Lawrence et al (2005).
- Media Analysis Techniques. Sage Publications Berger, Asa Authur (2017).

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	3	4

B. Des. - III SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD238 Computer Design & Digital Fabrication-II

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To orient the student to create two and three-dimensional objects in space with special emphasis on presentation and visualization of interiors using rendering techniques.

CONTENTS**UNIT I****SKETCH UP**

Orientation towards 3D : 2D to 3D conversion, perspective view, walk through the layout

UNIT II**3D MAX**

Understanding 3D, theory behind 3D modeling. Preparing for construction of 3D models. Construction of 3D surface models- extrusion, wire frame, creation of a shell, elaborate surfaces

UNIT III**REVIT (2D + 3D IN SAME PLATFORM)**

Introduction to REVIT ,Learning to use basic tools such as wall,roof floor ,staircases,dimensioning, plotting etc.

UNIT IV**SOLID MODELING (TRANSFORMING SPACES)**

Solid modeling : concepts behind solid modeling, composite solids creation and modification, solids display and inquiry. (Rhino and Grasshopper).

UNIT V**RENDERING & PRESENTATION TECHNIQUES**

Rendering and presentation. Printing and plotting.(Vray,Indesign,Illustrator,Lumion)

SUGGESTED BOOKS

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3D MAX comprehensive tutorial resources Wiley 2014.
- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	5	6

B. Des. - III SEMESTER
BD239 Product Design Studio-I

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Ability to develop new Concepts, Ideas successfully and efficiently.
- Build confidence in the ability to create new Products and Present.
- Understand the role of multiple process (environmental footprint, industrial design, production, strategy, project & product management) in creating a new product.
- Students be able to bring in different elements, interdisciplinary tasks to achieve a common objective.

CONTENTS

Lectures on simplicity; Complex nature of simple products; Single Function Products; Material Property as function; Form as function.

UNIT I**FORMULATION OF DESIGN BRIEF**

Sub unit - a, b and c detailed in Instructional Plan

UNIT II**CASE STUDIES & RESEARCH**

Sub unit - a, b and c detailed in Instructional Plan

UNIT III**CONCEPT AND BRAINSTORMING**

Sub unit - a, b and c detailed in Instructional Plan

UNIT IV**DEVELOPMENT OF CONCEPT**

Sub unit - a, b and c detailed in Instructional Plan

UNIT V**PROTOTYPING**

Sub unit - a, b and c detailed in Instructional Plan

CONDUCT OF EXAMINATION**SUGGESTED BOOKS**

- Prototyping and Modelmaking for Product Design (Portfolio Skills)by Bjarki Hallgrímsson

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)

45Marks

Regularity (Attendance)

15 Marks

Total

60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	8	9

B. Des. - III SEMESTER**BD240 Interior Design Studio-I****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- This course is intended to provide skills for designing single use interior spaces or products etc.
- Objectives of the course: To develop creative conceptual visualization, hand skill building, and the process of design.
- Expected skills/ knowledge Transferred: Use of anthropometry, ergonomics, handling of space and application of knowledge gained from other subjects, in design.

CONTENTS

The primary focus should be on

- Anthropometry
- Design methodology
- Conceptual exploration and representation.
- Creativity
- Scale/proportion
- Documenting space
- Graphic design (page layout and composition)
- Concepts sketching
- Application of design principles and elements
- Portfolio development

The list of suggested topics to be covered as design problems shall be a single space like: Single room residence, Doctor's clinic, kindergarten class room, Crèche, Architect's studio, Lawyer's office, small cafeteria, bank extension counter, florist shops, medical outlets, clothing store, shoe store, accessory store, book shop, waiting lounges for – hospitals, corporates, hotels, etc.

Note: At least three major exercises and four minor design/time problems should be given. Internal marking shall be done in stages project wise:

- Schematic layouts
- Final layout
- Sectional elevations
- Typical details
- Complete project with all details
- 3D drawings with colour rendering

SUGGESTED BOOKS

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	3	3

B. Des. - III SEMESTER**Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

BD241Development of Product Form & Process

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The main objective of the course is to visualize and develop the form step by step .

CONTENTS**UNIT 1: THINKING IN THREE DIMENSIONS**

Concepts of space and Volume, Evolution of a flat shape into a volume; History of utilitarianism; Stone Age Tools; Evolution of farming equipment; native artisanal tools; Creating compositions using rectilinear and curvilinear surfaces; Regular and irregular Solids, geometric shapes and their compositions; Regular and irregular Organics shapes;

UNIT 2: STRUCTURE AND ORDER FORM

, Feature and Content, Dominant, subdominant and subordinate elements, transition elements; Creating a family of forms; Abstraction, Expression and Meaning in Product Form; Generative algorithms; Generated Forms;

UNIT 3: TRANSFORMATION AND MOVEMENT

Addition, subtraction, conformation, Transition, Morphing; Radian Manipulation; creating volumes through imaginary movements;

UNIT 4: IDENTITIES AND RELATIONSHIPS

Ambiguity of “Form follows function”; examples from nature; Forms of Machine elements; Skeletons of life forms; Exoskeletons; Plant Structures Components of Built Spaces; Visualization through surface modeling software; Material Explorations using Papier Mache, wood, Threads, Ropes, Plaster of Paris and Polystyrene; Introduction to 3D Printing;

SUGGESTED BOOKS

- Gyorgy Kepes, Language of Vision, Dover Publications, 1995
- Kimberly Elam, Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001
- Gaston Bachelard and Maria Jolas (Translator),The Poetics of Space, Beacon Press; Reprint edition, 1994 Gail GreetHannah, Elements of Design, Princeton Architectural Press, 2002
- H. G. Greet and R. R. Kostellow, Elements of Design and the Structure of Visual Relationships, Architectural Press, NY, 2002
- Mario Livio, the Golden Ratio: The Story of PHI, the World's Most Astonishing Number, Broadway, 2003

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	-	-

B. Des. - III SEMESTER**Scheme of Examination**

CA	T	P/V	Total
100	-	-	100

BD242 Mini Project -Craft Study 10 Days (Minimum)

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES.

- **The major objective of this exercise is to make the best use of time in vacation period for the students to learn and getting involved in manufacturing of local craft and products .**

COURSE OUTLINE

Every student must work with, artisans, for 10 days after identification of the consultants and discussion with the concerned faculty. The student should involve in the work of these people and observe and document the materials, tools, techniques and process used by them in the projects. After the summer vacation, every student will have to submit a detailed report with drawings, photographs of the work in which the student was involved with the consultants

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)
Total

100 Marks
100 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	1	-	3

B.Des. - IV SEMESTER
BD243 Furniture Design-II

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES**CONTENTS****UNIT – I****STORAGE SYSTEM -KITCHEN**

Storage systems: Functional analysis of storage systems and thereby deriving types of cabinets needed for interior spaces – kitchen cabinets, wardrobes closets & respective hardware for modular kitchen.

Assignment: Exercise to design kitchen cabinets for a given kitchen in details.

UNIT – II**STORAGE SYSTEMS – BOOK CASES & SHOWCASE**

Storage systems: Functional analysis book cases, show cases, display systems, compactors, mechanical storage, etc. and respective hardware for these. Survey of several modular systems available for different functions in the market.

UNIT – III**MODULAR APPROACH TO FURNITURE DESIGN**

Various materials, combination of materials, their hardware and applications. Cost criteria of furniture design.

Assignments : Survey of several modular systems available for different functions in the market..

UNIT – IV**DESIGN APPROACHES IN FURNITURE DESIGN**

An introduction of various manufacturing processes most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, vacuum - forming etc.

Assignments : Survey of different types of moulded or casted furniture available for different functions in the market.

UNIT – V**FAMOUS DESIGNERS**

Charles & Ray Eames, Eero Saarinen, Jean Prouve, Paul Mccobb, Ettore Sottass, Knoll, Jens Risom etc.

SUGGESTED BOOKS

- Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
- Jim Postell, Furniture Design, Wiley publishers, 2007.
- Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. – IV SEMESTER
BD244 History of Design-IV

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To help the student understand the designs from prehistoric period to the middle ages.
- To know more on the modern movements in interior design from the beginnings of 20th century.

CONTENTS**UNIT I MODERN MOVEMENT:**

Return to the fundamentals and origins in nature and geometry; new inventions of iron and glass; horizontal and vertical expansions; responses to the vernacular. Social intentions and the search for the ‘ideal’ world; simplicity, abstraction, non-objective, nonrepresentative and neglect of content and ornament; new notions of technology; importance and precedence of function; De Stijl, etc. – an overview of the works of Louis Sullivan, C. R. Mackintosh, Edwin Lutyens, Antoni Gaudi, Walter Gropius, Frank Lloyd Wright, Le Corbusier, Mies van der Rohe.

UNIT II THE INTERNATIONAL STYLE:

Simplification of the Modern architecture into steel and glass cubes – an overview of the works of Philip Johnson.

UNIT III POST MODERNISM OF REACTION:

Architecture entrenched in place and history; sarcastic approval of expression, ornament, symbolism and context – an overview of the works of James Stirling, Michael Graves, Charles Moore. Post modernism of Resistance: Disregard for historical imagery; revival of the ideals of the Modern Architecture of the 20’s; exaggerated and sophisticated revival of the grid and Corbusier’s geometry – an overview of the works of Richard Rogers, Norman Foster, Richard Meier.

UNIT IV HI-TECH AND HISTORICISM:

Synthesis of the Hi-Tech and Historicism – an overview of the works of Cesar Pelli, Aldo Rossi

UNIT V DECONSTRUCTION:

Deconstruction as a reaction to the Post Modern; non-perfection as important as perfection, narrative and representational; traditional purity of form, geometry and structure in question – an overview of the works of Frank O. Gehry, Peter Eisenman, Bernard Tschumi, Rem Koolhaas, Zaha Hadid.

SUGGESTED BOOKS

1. Interior Design Course, Mary Gilliat Coyran, Octopus Ltd., London
2. Interior Design & Decoration, Sherril Whiton, Prentice Hall
3. Interior Design, Francis D.K. Ching, John Wiley & Sons, New York
4. History of Architecture, Sir Banister Fletcher, CBS Publishers & distributors, New Delhi
5. Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. – IV SEMESTER
BD245 Interior Services-I

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- **Gaining overall knowledge of general services in a building.**

CONTENTS

UNIT - I WATER SUPPLY General idea of sources of water supply. Standards for quality of water. Domestic water systems, suction and storage tanks and their capacity. Pipes and their sizes and jointing. Consumption of water. Down take supply to various fittings.

UNIT - II SANITARY FITTINGS Types of fittings like taps, ball valves, hot water supply systems, bathtubs, showers, jets, cocks, valves etc. Faucets for kitchens, bathrooms and toilets. Check valves, foot valves, sump pump check valves etc.

UNIT – III SANITATION Basic principles of sanitations and disposal of waste materials from buildings. Connection to outdoor drainage system, size requirements, types of pipes available in the market. Water carriage systems, standard sanitary fittings, traps, pipes and their jointing. Flushing systems. Bathroom interior layouts, extensive market survey of products available, economies of products available, fixing of the products with other finishing materials.

UNIT – IV SOLID WASTE Waste management : Refuse, different forms of refuse garbage, house refuse , refuse chutes , rain water harvesting etc.

UNIT – V ELECTRICITY Electrical Installations : Building wiring system. Service wires, metering distribution boards, circuits, MCB cutouts. Conductors, wiring methods, switch boards, electrical devices in the buildings, light and power circuits. Indian electricity rules, relevant provisions of NBC. Preparation of electrical layout scheme for a interior using standard electrical symbols

SUGGESTED BOOKS

- Rangwala, S.C. water supply and Sanitary Engineering : Environmental Engineering, 19th ed, Charotar pub house, Anand, 2004.
- Electrical wiring and contracting (vol. 1 to vol.4), London. The New era Publishing Company.
- Dr Frith Abnwos and others, Electrical Engineering hand book.
- William . J. Guinness, Mechanical and Electrical Systems for Buildings, New York : Mc Graw Hill.
- Derek Clements-Croome, Derek J. Croome, Intelligent buildings: Design, Management and Operation, Thomas Telford Books, London, 2004.
- Albert Ting-pat So, Wai Lok Chan, Intelligent Building Systems, Kluwer Academic Publishers, 2009.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B.Des. - IV SEMESTER

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

BD246 Elective-I: Product Photography

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

- BD 246: Product Photography

OBJECTIVES

The major objective of this course is know about the types of equipment required and expertise knowledge for product photography

CONTENTS

UNIT – I OVERVIEW OF PRODUCT PHOTOGRAPHY

- Product Photography significance – role in promotion of products - categorization of products – The lighting Equipment – Types of lighting units – Accessories – Digital Lights - Study of Concepts – Accessories - Props – Backgrounds - Models – Locations – hiring of studios – equipment.

UNIT – II ELECTRONICS PRODUCTS

- Shooting Script – Lighting Schemes – Exercises.

UNIT – III HOUSE HOLD PRODUCTS

- Shooting Script – Lighting Schemes – Exercises Liquid Products – Shooting Script – Lighting Schemes – Exercises.

UNIT – IV EXECUTIVE PRODUCTS

- Shooting Script – Lighting Schemes – Exercises. - Concept Photography - Shooting Script – Lighting Schemes – Exercises

UNIT – V . INDUSTRIAL PHOTOGRAPHER

– Lighting in Natural & Artificial

SUGGESTED BOOKS

- New Product Shots by Alex Larg & Jane Wood.
- Lighting for Food & Drink by Steve Bavister.
- Practical Photography by Michael Freeman.
- Magazines vide WEB.
- Magazines on Advertising.

ASSIGNMENTS:

- Liquid Product (with model / without model)
- House hold Product
- Electronic Product
- Cosmetic Product

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - IV SEMESTER**BD247Elective-I: Representation of Spaces****Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

Conceptualizing and utilizing space which can serve a desired purpose

CONTENTS**UNIT- I REPRESENTING SPACES**

Representing space as a pervasive phenomenon in literature. Philosophical cultural and social aspects of spaces in literature, cinema, theatre.

UNIT -II SPACE DISCOURSE

Space as discourse in literature and exercise - sketching spaces from literature eg: Windows as frames of reference describing use of spaces in literary texts such as “Alice in Wonderland “- Space in the middle of no where ,space and the mythical quality it holds conceptualising space from sound and smell.

UNIT -III THRESHOLD

Threshold and liminal space exercise: Find and collect picture and draw threshold spaces .Discussion on images of threshold spaces, threshold spaces in films and mythology.

UNIT- IV SPACE IN DEMOCRACY

Democracy and space public sphere, public realm and public space, rights of people over space.

UNIT -V SPACE IN FICTION

Spaces in children’s fiction comics and graphic novel.

SUGGESTED BOOKS

- Peter Zumthor, thinking architecture ,edition 3,bIrkhauser Architecture,2010
- Alice in Wonderland, Lewis Carroll, LVL Edition, 2016.
- Fountain Head ,Ayn Rand, signet,

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - IV SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD248 Elective-I: Vernacular Architecture & Interiors

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

Knowledge about different types of locally available materials and techniques which are used in products and interior design .

CONTENTS**UNIT I ETYMOLOGY**

Etymology, Definitions, Vernacular and the architect, Regional influences on vernacular Architecture, Humanitarian response, Urban and rural vernacular architecture, role of sustainability in vernacular architecture, Environment & Resource Management

UNIT II MATERIAL AND TECHNIQUES

Building materials and traditions, Vernacular building materials- Recognize the different ways in which these materials were used at different times and in different parts of the country, Documenting vernacular traditions, and knowledge systems.

UNIT III DECORATIVE FEATURES

Assess the likely sources of stylistic and decorative features of vernacular buildings and employ these to assist in dating analyzing their role and application in the present context.

UNIT IV DOCUMENTATION

Recording vernacular buildings- Why record buildings? Recording basics (measuring and recording historic buildings) Drawing up; conventions and equipment Documentary sources and what they can tell us Briefing for recording day(s) Recording the chosen building(s) Reviewing the results; and role of photography in documenting vernacular buildings.

UNIT V VERNACULAR TOWNS

Vernacular Towns – evolution process , character, morphology, growth and decay. Case studies of Vernacular towns within Tamil Nadu. Knowledge of vernacular architecture in contemporary regional designs. Traditionalism and Vernacular.

SUGGESTED BOOKS

- Heath, Kingston wm- 'Vernacular Architecture and Regional design'- Cultural process and environmental response- 'Elsevier science and technology'- 30 April 2007
- Vernacular Traditions : Contemporary Architecture, The energy resources and institute, Aishwarya Tipnis,2012
- Lindsay Asquith, Marcel Vellinga, Taylor and Francis- 'Vernacular architecture in the Twenty first century'- 2006 USA

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - IV SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD249 Elective-I: Works of Famous Designers

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

The subject aims to study the works of famous architects designers artisans and implementing their methods and theories in their own design

CONTENTS

Works of Foreign Architects /Artisans in India and their influence – Edwin Lutyens, Le Corbusier, Louis Khan, Philip Johnson. Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal, , Joseph Allen Stein

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	3	5

B.Des. - IV SEMESTER
BD250 Rapid Prototyping

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- This course has been identified as an extension to primitive model making course in previous semester and objectified to capture student attention to various materials being used in the industry for model making and prototyping.
- The programme shall be able to introduce student latest prototyping technologies used in the industry like 3d printing, laser, etc for making prototypes close to the actual products.
- It shall make students learn advance hands on processes used in model making like thermoforming, FRP casting etc.

CONTENTS**UNIT - I**

Introduction: Introduction to Prototyping, Traditional Prototyping Vs. Rapid Prototyping (RP), Classification of Rapid Manufacturing Processes: Additive, Subtractive, Formative, Generic RP process.

UNIT- II

CAD Modelling and Data Processing for RP: CAD model preparation, Data interfacing: formats (STL, SLC, CLI, RPI, LEAF, IGES, HP/GL, CT, STEP), conversation, validity checks, repair procedures; Part orientation and support generation, Support structure design, Model Slicing algorithms and contour data organization, direct and adaptive slicing, Tool path generation.

UNIT- III

RP Processes: Process Physics, Tooling, Process Analysis, Material and technological aspects, Applications, limitations and comparison of various rapid manufacturing processes. Photopolymerization (Stereolithography (SL), Microstereolithography), Powder Bed Fusion (Selective laser Sintering (SLS), Electron Beam melting (EBM)), Extrusion-Based RP Systems (Fused Deposition Modelling (FDM)), 3D Printing, Sheet Lamination (Laminated Object Manufacturing (LOM), Ultrasonic Consolidation (UC)), Beam Deposition (Laser Engineered Net Shaping (LENS), Direct Metal Deposition (DMD)).

UNIT – IV

Errors in RP Processes: Pre-processing, processing, post-processing errors, Part building errors in SLA, SLS.

LIST OF TUTORIALS:

1. Review of CAD Modelling Techniques and Introduction to RP
2. Generating STL files from the CAD Models & Working on STL files
3. Processing the CAD data in Catalyst software (Selection of Orientation, Supports generation, Slicing, Tool path generation)
4. Learning techniques for fabricating an assembly
5. Prepare a CAD model with complex geometry and study effect of slicing parameters on final product manufactured through RP.

MAJOR EQUIPMENT:

- CAD Tools.
- 2. Rapid prototyping machine.
- 3. 3D Printer.

LIST OF OPEN SOURCE SOFTWARE / LEARNING WEBSITE:

1. <http://nptel.ac.in/syllabus/syllabus.php?subjectId=112104156>

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	35 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	8	9

B.Des. - IV SEMESTER**BD251 Interior Design Studio-II****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

This course is intended to provide skills for designing medium scale interior spaces or products etc.

Objectives of the course: To develop creative conceptual visualization, hand skill building, and the process of design and emphasis shall be on graphic layout and elevations as a design process.

Expected skills/ knowledge Transferred: Use of standards, functions of spaces and application of knowledge gained from other subjects, in design.

The primary focus should be on –

- i. Documenting space (sketch and photo documentation)
- ii. Space planning process (block diagram, concept statement)
- iii. Concept sketching
- iv. Application of design principles and elements
- v. Creativity /originality
- vi. Design Process/methodology
- vii. Structural integration
- viii. Style
- ix. Color Rendering
- x. Anthropometry and ergonomics
- xi. Furniture Design
- xii. Material selection
- xiii. Graphic design (page layout and composition)
- xiii. Portfolio development

Design portfolio to include designs in response to today's situation of urban society, i.e., contemporary spaces required in modern society – needs, realities, value system etc.. The spaces to be considered shall be : home, office, bank, school, college, public level spaces - restaurant, lounge (hotel),

etc. The list of suggested topics to be covered as design problems:

- Thematic space making with Art and craft forms of our own culture in India – East, West, North, Central and so on.
- Design of built units of various geographical locations and culture by involving historical periods, styles and use of craft in its inherent quality and form - integrating craft and living environment.

Note: At least two major exercises and three minor time problems should be given. Internal marking shall be done in stages and project wise:

- Schematic layouts
- Final layout
- Sectional elevations
- Designs & details

SUGGESTED BOOKS

- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002
- Neufert Ernest, Architect's Data, Granada pub. Ltd. London, 2000.
- John F. Pile, A history of interior design, Laurence King Publishing, 2005.
- Robin D. Jones, Interiors of Empire: Objects, Space and Identity within the Indian Subcontinent, Manchester University Press; illustrated edition, 2008

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	2	3

B.Des. - IV SEMESTER**Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

BD252 Layout Drawing & Display Techniques

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To equip the students with various tools of sketching and rendering like pencils, pens, charcoal, ink brushes etc.
- To familiarize the students with some of the concepts of 3D modeling and the presentation techniques.

CONTENTS**UNIT I COLORING STUDY**

Introduction of colors, Usage of water colors, poster colors, pen & ink, rendering techniques, etc.

UNIT II DRAWING AND SKETCHING INTERIOR ENVIRONMENTS

Drawing and sketching interior environments, one point interior perspective, two point interior perspective, refined linear perspective methods, two point plan projection method, and perspective traced from photographs.

UNIT III RENDERING WITH PEN AND INK

Introduction to pen and ink rendering, materials, media and tools, rendering orthographic projection drawings, rendering perspective drawings.

UNIT IV RENDERING WITH COLOUR PENCILS AND SKETCH PENS

Rendering of interior perspectives with colour pencils and sketch pens – stroke effects, smudge effects – use of schoeller and kent sheets – leather cartridge etc.

UNIT V RENDERING WITH POSTER/WATER COLOURS

Use of kent/ cartridge sheets for poster colours and waterman/cartridge sheets for water colours – transparency effects in water colours – block effects in poster colours.

SUGGESTED BOOKS

- Interior Design Visual Presentation 2nd and 3rd Edition-Maureen Mittom
- Architects Sketching and Rendering techniques for designers and architects.-Stephen.A.Klimet
- Architectural Rendering Techniques-A Color Reference-Mike.W.Lin
- Color Drawing-Design drawing skills & techniques for architects-Michael.E.Doyle.
- Color Vision-Leo Marvullo 6. Water Color-Hon graham Scholes

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	5	6

B.Des. - IV SEMESTER**Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

BD253 Product Design Studio -II

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Ability to develop new Concepts, Ideas successfully and efficiently.
- Build confidence in the ability to create new Products and Present.
- Understand the role of multiple process (environmental footprint, industrial design, production, strategy, project & product management) in creating a new product.
- Students be able to bring in different elements, interdisciplinary tasks to achieve a common objective.

CONTENTS**UNIT I****FORMULATION OF DESIGN BRIEF**

Sub unit - a, b and c detailed in Instructional Plan

UNIT II**CASE STUDIES & RESEARCH**

Sub unit - a, b and c detailed in Instructional Plan

UNIT III**CONCEPT AND BRAINSTORMING**

Sub unit - a, b and c detailed in Instructional Plan

UNIT IV**DEVELOPMENT OF CONCEPT**

Sub unit - a, b and c detailed in Instructional Plan

UNIT V**PROTOTYPING**

Sub unit - a, b and c detailed in Instructional Plan

CONDUCT OF EXAMINATION**SUGGESTED BOOKS**

- Prototyping and Modelmaking for Product Design (Portfolio Skills)by Bjarki Hallgrimsson

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	2	-	4

B.Des. - V SEMESTER
BD331 Interior Landscape

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Familiarizing with the basic fundamentals of landscaping of interior spaces
- Application of basic fundamentals and parameters of landscaping in design

CONTENTS

UNIT I LANDSCAPE AND BUILT ENVIRONMENT

Introduction and role of landscape design in the built environment. Types of natural elements – stones, rocks, pebbles, water forms, plants and vegetation. Introduction to the study of plants in relation to landscape design and interiors. Types of indoor plants, visual characteristics: i.e., color, texture, foliage.

UNIT II VISUAL PERCEPTION

Flowers- its colors, texture and its visual perception in various indoor spaces and science of flower arrangement Indoor plants in Indian context. Plant biology, soil, moisture, light nutrient, atmospheric conditions, growing medium, pests & diseases. Botanical nomenclature, anatomy and physiology of plant growth. Market survey and costs.

UNIT III DESIGN WITH PLANTS

Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment. Selection and management of plant material in relation to the built environment.

UNIT IV HARDSCAPE

Design concepts related to use of sculpture, lightings, garden furniture, architectural feature and grouping them into meaningful compositions for visual and functional effects.

UNIT V LANDSCAPE DESIGN PARAMETERS

Landscaping design parameters for various types of built forms- indoor and outdoor linkage to spaces.

Landscaping of courtyards- residential and commercial forms. Indoor plants and their visual characteristics- . Science of maintaining and growing greenery. Automatic irrigation costing and installation of micro irrigation systems.

SUGGESTED BOOKS

- Joseph DeChiara, Julius Panero, and Martin Zelnik Time-Saver Standards for Interior Design and Space Planning, 2nd edition, Mc-Graw Hill Professional,2001.
- Andreas Uebele, Signage Systems and Information Graphics , Thames and Hudson, 2007
- Craig Berger, Wayfinding: Designing and Implementing Graphic Navigational Systems, Rotovision, 2009.
- Chris Calori, Signage and Wayfinding Design: A Complete Guide to Creating Environmental Graphic Design Systems, Wiley and sons, 2007.

- David Gibson, *The Wayfinding Handbook: Information Design for Public Places*, Princeton Architectural Press; 1st edition, 2009.
- Rayan Abdullah and Roger Hubner, *Pictograms, Icons and Signs*, Thames and Hudson, illustrated edition, 2006.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER**BD332 Interior Services -II****Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To expose the students to the basic principles of air conditioning, acoustics, electrification and mechanical services.
- To understand the need and applications of air conditioning, acoustics, electrification and mechanical services in buildings with exposure to various systems, methods and fixtures.

CONTENTS**UNIT I****HVAC**

Heating Ventilation & Air Conditioning (HVAC) systems : Air conditioning, Mechanical ventilation – mechanical inlet and extraction systems. Functions of air conditioning, Principles of AC, capacity of AC, Types of AC systems – window AC, split, ductable, central AC and their details. Air distribution systems – ducts, air inlets.

UNIT II**FIRE SAFETY**

Fire – causes and spread of fire. Design considerations for fire safety, Devices for firefighting – portable, built in wet riser system, sprinkler system, fire hydrant. Class of fire and occupancy, study of fire regulations as per NBC

UNIT III**VERTICAL TRANSPORT**

Services for multi storied buildings - Vertical transportation systems – Introduction – lifts, escalators vertical & horizontal, definition, location, arrangement, structure, drives, traffic analysis, supervisory control, remote monitoring.

UNIT IV**SAFETY & SECURITY**

Security and safety systems – introduction, designing a security system – burglar alarm, CCTV, central alarm systems, intrusion sensors and space sensors. Other services – cable TV, PABX, computer labs – access flooring, server rooms.

UNIT V**BUILDING AUTOMATION AND ENERGY MANAGEMENT**

Building automation and energy management – Introduction, History of development of BAS, typical BAS, criteria for choosing the right BAS, open system architecture. Information technology, communications & artificial intelligence in intelligent buildings. Design in computer age, engineering intelligence through nature.

SUGGESTED BOOKS

- Rangwala, S.C. water supply and Sanitary Engineering : Environmental Engineering, 19th ed, Charotar pub house, Anand, 2004.
- Electrical wiring and contracting (vol. 1 to vol.4), London. The New era Publishing Company.
- Dr Frith Abnwo and others, Electrical Engineering hand book.
- William . J. Guinness, Mechanical and Electrical Systems for Buildings, New York : Mc Graw Hill.
- Derek Clements-Croome, Derek J. Croome, Intelligent buildings: Design, Management and Operation, Thomas Telford Books, London, 2004.
- Albert Ting-pat So, Wai Lok Chan, Intelligent Building Systems, Kluwer Academic Publishers, 2009.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)

25 Marks

Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER

BD333 Elective III: Design Semiotics

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

Understanding communication channels, Understanding semiotics and its cultural aspects.

CONTENTS

UNIT 1: Information Processing Coding & Decoding; Sender, Channel and Receiver; Drawing as method of interaction, observation and documentation

UNIT 2: Indirect communication Study of relationships between Signifier, Signified and context; Denotation and Connotation; Communicating through gestures, voice, type and visuals

UNIT 3: Introduction to Semiotic Perspective Visual perception & semiotics; Sign: Concept and Types; Codes: Concepts, Types and Sharing; Usage of visual semiotics

UNIT 4: Semiotic Interpretations and Cultural Metaphors Myths- Concepts and Debates; Communication as Text Discourse; Ideology: Link to Meaning Making; Calendrical events: understanding of festivals and rituals; Signs and their meanings in Indian cultures

UNIT 5: Introduction to Rhetoric Perspective Origin and Evolution Functions of Rhetoric; Key Elements of Rhetoric; Elements and analyzation of Rhetorical Presentation

SUGGESTED BOOKS

- Ronald H. Forgas, Perception, The basic process in cognitive development, USA, McGraw-Hill 1996
- Arthaya, Seminar on Visual semantics, IDC, IIT Bombay 1992 Carey, J. W. (1989).
- Communication as culture: Essays on media and society. Boston Ghanekar,
- A (1998) Communication skill for effective management. Everest Publishing House. Gilligan,Pune Fiske, J. (1982). Introduction to communication studies. London, Angleterre: Methuen Schlenker, B. R. (1980).
- Impression management: The self-concept, social identity, and interpersonal relations. Monterey, Calif: Brooks/Cole Pub. Co

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD334 Elective III: Universal Design

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Developing Problem solving skill
- Understand the various techniques of out of box thinking and selecting appropriate one based on the circumstance and situation

CONTENTS**UNIT 1: ORIENTATION**

What is Universal Design? Its Origin and emergence, Need and its relevance today, Examples of UD.

UNIT 2: PRINCIPLES AND GOALS

Principles of universal design, Goals of Universal Design, Understanding above from various design spectrums- Product, building, information, service

UNIT 3: DEEP DIVE

Universal - Inclusive - Accessible Design, Universal Design for Learning (UDL), Use of Assistive technologies, Research techniques like- AGNES (Age gain now empathy system simulation suit), Current ecosystem, Government Initiatives & policies.

UNIT 4: ACCESSIBILITY STANDARDS AND GUIDELINES

Physical accessibility standards for Barrier free environment, Web accessibility, WAI (Web Accessibility Initiative), World Wide Web Consortium (W3C)

UNIT 5: MINI PROJECT

As per brief

SUGGESTED BOOKS

- Edward Steinfeld and Jordana L. Maisel, Universal Design – Creating Inclusive Environments, 2012
- William Lidwell, Kritina Holden, Jill Butler; Universal Principles of Design, 2003
- Bruce Hanington, Bella Martin; Universal Methods of Design, 2012
- James Holmes-Seidle , Barrier-Free Design, 1996 CPWD,
- Guidelines and space standards for Barrier free built environment for Disabled and Elderly Persons, 1998

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching			
L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER

BD335 Elective III: Sustainable Design

Scheme of Examination			
CA	T	P/V	Total
50	50	-	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To expose the students to the basics of adaptive reuse and recycling.
- To enable the student to understand the need for adaptive reuse of old heritage buildings and applications of using recycled materials.

CONTENTS

UNIT I

NEED FOR ADAPTIVE REUSE

Cultural inheritance – heritage buildings and old structures – ascertaining the structural stability – estimation of the prolonged life of the building – strategies of adaptive reuse – investigation into material finishes etc.

UNIT II

NEED FOR RECYCLING OF MATERIALS

The logic behind recycling – recycling of steel, wood, glass etc - estimation of the quality of recycled timber – criteria for recycling of steel, glass etc.

UNIT III

CONCEPT OF SUSTAINABILITY

Earth summit declaration – definition of sustainability – economic, social and environmental issues – green rating of buildings – criteria for LEED rating.

UNIT IV

RECYCLING OF WASTE WATER

Sullage and sewage – techniques of water purification for sullage – treatment plant for sewage – techniques of biological and chemical purification.

UNIT V

NEED FOR CONSERVATION

Architectural conservation – conservation of heritage and important buildings – levels of intervention – structural, construction related, finishes etc. Revival of old building techniques and finishes.

SUGGESTED BOOKS

- Harimohan Pillai – Heritage conservation and cultural continuity – Saraswatham publishers, 2002.
- Sustainable building design manual – TERI publication, 2004.
- Waste management and recycling – Compiled by C.T. Lakshmanan, SRM University.
- Sandra F Mendler - The HOK Guide book for sustainable design – John Wiley and Sons, Canada, 2002. 5. Conservation guidelines for pondichery – DTCP, Pondichery – INTACH 2000.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER**Scheme of Examination**

CA	T	P/V	Total
50	50	-	100

BD336 Elective III: Graphics & Animation

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- This is essentially a computer laboratory based training course intended to upgrade the presentation skill of the students so as to enable them to produce high quality, photo – realistic drawings & walk through.
- Presently the students would be trained in the use of software such as Google Sketchup to model Interiors of buildings. However, the software may change over time & hence training would be imparted in their use.

CONTENTS**UNIT I****BASIC DIGITAL TECHNIQUES**

Basics of Digital Technologies, Operating Systems and computer Architecture, Graphics Basics - Vector graphics, Raster, etc. Compression Techniques, Conversion Techniques

UNIT II**COMPUTER GRAPHICS**

Computer Graphics: Aesthetics and Design: CG Application areas and equipment, CG Standards and Formats

UNIT III**2D AND 3D MODELLING**

2D—Images and Graphics, Principles of raster graphics, Resolution, color, graphics accelerators, digital image representation and formats, 3-D Modeling, Rendering color and rendering models

UNIT IV**ANIMATION**

Animation—Objects, dynamics, Frame animation, Composing, making and keying

UNIT V**MULTIMEDIA**

Multimedia Systems, Products, Platforms, Application Domain and Features—audio and video standards — integrating multiple formats (sound, video, text, etc.), Recent Developments in software and hardware systems

SUGGESTED BOOKS

- User manual & tutorials of Google Sketch Up software.
- Heath, Steve. Multimedia and Communication Technology. Focal Press
- Multimedia and communications, Application Networks, Protocols and standards, Addison Wesley,2000

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)

40 Marks

Regularity (Attendance)

10 Marks

Total

50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER
BD337 Open Elective-I: A

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER
BD338 Open Elective-I: B

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER
BD339 Open Elective-I: C

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - V SEMESTER
BD340 Open Elective-I: D

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	4	5

B.Des. - V SEMESTER**BD341 Working Drawing & Detailing****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- The students learn to draw working drawings used for building construction
- Reading of working drawing, their co-relation and cross-referencing in various technical projections like plans, elevations, sections, detailing etc.

CONTENTS**UNIT I****BUILDING COMPONENTS**

Working drawing of different types of doors and windows.

UNIT II**BUILDING SURFACES**

Working drawing of wall murals, reflected ceiling plans and flooring patterns.

UNIT III**FURNITURE**

Working drawing of work station, living room furniture, bedroom furniture and dining tables.

UNIT IV**DETAILING OF SPECIAL AREAS**

Working drawing for toilets with plumbing diagram – working drawing of kitchen with detailing of shelves and cupboards

UNIT V**DETAILING OF STORAGE AREAS**

Working drawing o wardrobes, TV cabinet and showcase, crockery shelves, cadenza, chest of drawers, dressing table, etc.

SUGGESTED BOOKS

- De Chiara and Callender – Time Saver Standards for interior design, 1982.
- De Chiara et al – Time Saver standards for interior design and space planning, Mcgraw Hill, 1982.
-

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	4	4

B.Des. - V SEMESTER**BD342 Manufacturing & Assembly****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Identifying different tools and machines, how to use them and safety measures
- Material study and how to use them for joining and welding processes
- Recognize various metal joining processes and power transmission elements.
 - Understand the properties of common engineering materials and their applications in engineering industry.
- Discuss the working of conventional machine tools, machining processes, tools and accessories.
- Describe the advanced manufacturing systems.

CONTENTS**UNIT I****PROPERTIES, COMPOSITION AND INDUSTRIAL APPLICATIONS OF ENGINEERING MATERIALS:**

Metals - Ferrous: cast iron, tool steels and stainless steels and non-ferrous such as aluminum, brass, bronze. Polymers - Thermoplastics and thermosetting polymers. Ceramics - Glass, optical fiber glass, cermets. Composites - Fiber reinforced composites, Metal Matrix Composites Smart materials - Piezoelectric materials, shape memory alloys, semiconductors and insulators..

UNIT II**JOINING PROCESSES:**

Soldering, Brazing and Welding: Definitions. Classification and methods of soldering, brazing and welding. Brief description of arc welding, oxy-acetylene welding, TIG welding, and MIG welding.

UNIT III**DRIVES & LATHE**

- Belt drives: Open & crossed belt drives, Definitions -slip, creep, velocity ratio, derivations for length of belt in open and crossed belt drive, ratio of tension in flat belt drives, advantages and disadvantages of V belts and timing belts, simple numerical problems.
- Gear drives: Types- spherical, bevel, worm and rack and pinion. Velocity ratio, advantages and disadvantages over belt drives, simple numerical problems on velocity ratio.
- Lathe: Principle of working of a center lathe. Parts of a lathe. Operations on lathe - Turning, Facing, Knurling, Thread Cutting, Drilling, Taper turning by Tailstock offset method and Compound slide swiveling method, Specification of Lathe.

UNIT IV**MILLING & CNC**

- Milling Machine: Principle of milling, types of milling machines. Working of horizontal and vertical milling machines. Milling processes - plane milling, end milling, slot milling, angular milling, form milling, straddle milling, and gang milling.
- Computer Numerical Control (CNC): Introduction, components of CNC, open loop and closed loop systems, advantages of CNC, CNC Machining centers and Turning centers.

UNIT V**ROBOTS:**

Robot anatomy, joints and links, common robot configurations. Applications of Robots in material handling, processing and assembly and inspection.

SUGGESTED BOOKS

- Elements of Mechanical Engineering, K. R. Gopala krishna, Subhas Publications, Bangalore,2008.
- Elements of Mechanical Engineering, Vol.-1 & 2, Hajra Choudhury, Media Promoters,NewDelhi, 2001.
- A Text Book of Elements of Mechanical Engineering", S. Trymbaka Murthy, 3rd revised edition 2006, I .K. International Publishing House Pvt. Ltd.,New Delhi .
- CAD/CAM/CIM, Dr. P Radhakr ishn an, 3rd editi on, New Age International Publishers, New Delhi.
- Introduction to Robotics: Mechanics And Control, Craig, J. J., 2nd Ed.Addison-Wesley Publishing Company, Readong, MA, 1989.
- Introduction to Engineering Materials", B.K. Agrawal ,Tata McGraHill Publication, New Delhi

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	5	6

B.Des. - V SEMESTER**BD343 Product Design Studio -III****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To introduce the students to the technically complex product design challenges, considerations and deliverables.
- The focus is on being able to identify and analyze the need, articulate it and generate solution with an understanding of how things work.

CONTENTS

1. Introduction to the design intervention in the human realm which add value and quality to the life of people.
2. Identifying design opportunity in accessible environments.
3. Literature survey to collect relevant data on the product.
4. Activity recording and task analysis.
5. Questionnaire and interview techniques for enlisting and elaborating the different problem areas.
6. Study on the existing product: it's working principle, its advantages and disadvantages.
7. Study to understand technology and/or mechanisms in the context of identified need.
8. Conduct market research.
9. Study on materials and manufacturing processes.
10. Formulation of the design brief.
11. Introducing students to critical creative thinking tools.
12. Ideation -- concept generation and explorations with quick explanatory models.
13. Evaluation and validation of new concepts.
14. Finalization of the concept with design development and detailing.
15. Prototyping of 3D models.
16. Hand and computer Renderings and finished model of the final design solution.

Assignments:

1. Research, documentation & presentation
2. Analysis & formulation of design brief
3. Ideation & exploration -- sketches & study models
4. Final design solution -- product detailing, rendering& finished models/prototype

SUGGESTED BOOKS

- Rod Judkins, The Art of creative thinking, Sceptre Pub, 2015

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	8	9

B.Des. - V SEMESTER**BD345 Interior Design Studio -III****Scheme of Examination**

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To introduce the basics of designing for retail spaces including showrooms and restaurant interiors and to develop skills required for the same.
- The course concentrates on three stages of commercial spaces with an emphasis on planning show rooms , hospitality spaces
- The main aim is to develop visually literate students who are proficient at analytical thinking, conceptualization and the problem-inquiry, solution cycle. The course also examines the connection between abstract design principles and the physical and visual environments.

CONTENTS**UNIT I****HEALTH CARE INTERIORS**

The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.

UNIT II**RESTAURANT INTERIORS**

Interior designing for multi functional Restaurants and Banquet halls, multi level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme based restaurants, corporate banquet venues etc

SUGGESTED BOOKS

- Designs for 20th century Interiors – Fiona Leolie, VH Publications, London.
- Interior Design; The New Freedom, Barbaralec Diamonstein, Rizzoli International Publications, New York, 1982.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	-	-

B.Des. - V SEMESTER

Scheme of Examination

CA	T	P/V	Total
100	-	-	100

BD346 Mini Project-15 days(Minimum)

Abbreviations: L=Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To Utilize the learning in a practical project under a Professional

CONTENTS

Every student must work with an interior designer for a minimum of 15 days after identification of the consultants and discussion with the concerned faculty. The student should involve in the work of the firm and observe and document of the projects they were involved in. After the summer vacation, every student will have to submit a detailed report with drawings, photographs of the work in which the student was involved with the consultants.

CONTINUOUS ASSESSMENT

Total

100 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	1	-	3

B.Des. - VI SEMESTER

BD347 Lighting Colors & Interiors

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To help the student understand day lighting and technology of artificial lighting.
- To equip the student to understand and successfully apply lighting techniques with colour effects.

CONTENTS

UNIT - I INTRODUCTION TO DAY LIGHTING

Nature of light – Wavelength, Photometric quantities – intensity, Flux, illumination and luminance, visual efficiency, sources of light, day light factor concept, design sky concept, day lighting requirements.

UNIT – II ARTIFICIAL LIGHTING

Electric lamps – incandescent, fluorescent, sodium vapour, mercury, halogen and neon. Different types of lights in interior and exterior - task lighting, special purpose lighting. Calculation of artificial lighting, guidelines for lighting design, Glare in artificial lighting.

UNIT – III EFFECT OF COLOR IN LIGHTING

Colors, color schemes - Monochromatic, analogous, complementary colour schemes, triadic and tetradic schemes, effects of color in different areas, color temperature, psychological effects of colour in interiors, factors affecting colour, Prang theory – Colour wheel, Munsell system and Oswald system.

UNIT - IV LUMINARES & FIXTURES

Definition, different luminaries for lighting, lighting control system- benefits & application, Impact of lighting, fixture types - free standing or portable, fixed, light fixture control. Lighting accessories- switches, sockets, fused connection units, lamp holders, ceiling roses etc.

UNIT - V CASESTUDY

Study of projects based on different lighting concepts used in interiors and exteriors.

SUGGESTED BOOKS

1. The Art of living- Randall whitehead,
2. Lighting design, source book- Randall whitehead,
3. Light right- M.K.Halpeth, T.Senthil kumar, G.Harikumar
4. Concepts of lighting, Lighting design in Architecture- Torquil Barker

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	3

B.Des. - VI SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD348 Product Branding & Identification

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

Understanding of why organizations invest in maintaining their identity, Knowledge of Branding and Identity design process

CONTENTS

UNIT 1: Principles of Visual Design Refresher Understanding visual culture; Visual Theories; Visual Design; Symbolism, Time, Sound; Point of View

UNIT 2: Visual Art Visual art History; Sculpture; Artistic Styles

UNIT 3: Aesthetic Experience Modes of Aesthetic Experience; Basics of Aesthetic values; Aesthetics of Thinking and Creativity; Taste and Aesthetes; Aesthetics of Symbols and Language;

UNIT 4: Visual Experience Photography and Moving Images; Historical, Technical and Cultural Perspective; Ethical and Critical Perspective; Motion Pictures; Television and Video; Reality Shows;

UNIT 5: Branding and Identity History of branding; structure of a Brand; Brand language; Logos; Copywriting; Typeface; Brand Placement; Brand Guidelines; Structure of Identity; Visual Abstraction; Metaphors; Communication; Representativeness; Evolution;

SUGGESTED BOOKS

- Paul M., Visual Communication: Images with Messages, 2006
- Ralph E. Wileman, Visual Communication David Sless, Learning & Visual Communication Friedrich O. Huck and Carl L. Fales,
- The Digital Evolution: Visual Communication in the electronic age Zia-Ur-Rehman, Visual Communication an Information Theory Approach Margaret Mark, Carol Pearson,
- the Hero and the Outlaw: Building Extraordinary Brands through the Power of Archetypes,
- McGraw Hill, 2001

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	3

**B.Des. - VI SEMESTER
BD349 Estimation & Costing**

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To equip the students to prepare the Estimate in order to foresee the cost of the work or to implement an interior design project & also to monitor / control project cost.

CONTENTS

UNIT – I INTRODUCTION TO ESTIMATION

Estimation – definition, purpose, types of estimate, and procedure for Estimating the cost of work in order to implement an interior design project or to make products related to interior design like furniture, artifacts etc.

UNIT – II RATE ANALYSIS & ESTIMATION FORMAT

Rate Analysis – definition, method of preparation, quantity & labour estimate for woodwork, steelwork, Aluminum work, glass & its rate for different, thickness & sections, finishing (enamel paint, duco paints, melamine, DU coats, Hand polishing, veneering and laminating) for walls & ceilings. Electrical & plumbing products, wiring, ducting etc., and laying of tiles & wall paneling in the estimate format of the project.

UNIT – III DETAILED ESTIMATE

Detailed Estimate – data required, factors to be considered, methodology of preparation, abstract of Estimate, contingencies, labour charges, bill of quantities, different methods of estimate for interior design works, methods of measurement of works.

UNIT – IV COSTING OF FIXTURES & FITTINGS

Cost of the following items: electrical fitting like, luminaries, fan, cables, switches etc., tiles in skirting & dado, cement plaster, joinery in wood, steel & aluminum, painting to walls – cement paint, oil paints, distemper acrylic emulsion, enamel paint painting to joinery, varnishing, French polishing plumbing equipments like piping, shower panels, cubicles, tubs, Jacuzzis, taps, motors, fountains, false ceiling of 25 aluminum panels, steel & wooden frame work, thermocol etc. wall paneling of ceramic tiles & other tiles of materials suitable for the same, partitions made of materials like aluminum wood, steel etc

UNIT – V INTRODUCTION TO SPECIFICATION

Specification – Definition, purpose, procedure for writing specification for the purpose of calling tenders, types of specification. Specification for different item related to interior design project – woodwork for furniture window frames & pelmets, partitions etc also of materials like steel aluminum glass of various kind. Wall paneling & false ceiling of materials like aluminum, steel, wood, electrical, plumbing, airconditioning & fire fighting equipments.

SUGGESTED BOOKS

- M. Chakraborti, .Estimation, Costing, Specification and Valuation in Civil engineering.
- Dutta, Estimating and Costing, S. Dutta and Co., Lucknow 1983
- S. C. Rangwala, Elements of Estimating and costing, Charoter publishing House, Anand, India, 1984.
- The interior designers guide: to pricing, estimating budgeting. By Theo Susan

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Faculty of Architecture and Planning, Integral University, Lucknow

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VI SEMESTER
BD350 Open Elective-II: A

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VI SEMESTER
BD351 Open Elective-II: B

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VI SEMESTER
BD352 Open Elective-II: C

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VI SEMESTER
BD353 Open Elective-II: D

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	3	5

B.Des. - VI SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD354 Product Packaging Design

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To equip the students to prepare the Estimate in order to foresee the cost of the work or to implement an interior design project & also to monitor / control project cost.

CONTENTS

UNIT 1: INTRODUCTION

Introduction to different kinds of packaging material; Studying about requirements of different products; Exposure of products, services and packaging in stores and similar environments

UNIT 2: CASE STUDIES

Studying a variety of packaging case studies for different brands, materials used; studying the sustainability aspect; understanding the feasibility; Deconstructing and studying packaging of different brands (2-5 brands can be taken in consideration); Elaborating the study on any of the selected brands.

UNIT 3: PROJECT SELECTION

Selection of product for packaging development; Researching about the current packaging available; constraints and positive aspects; understanding, target audience, budget, branding

UNIT 4: PROJECT DEVELOPMENT

Developing a packaging for the selected product; Incorporating improvements that can be worked upon after the research work.

UNIT 5: FINAL PACKAGING AND ITS BRANDING

Working on the branding aspect of the packaging that has been developed.

SUGGESTED BOOKS

- Marianne R. Klimchuk, Sandra A. Krasovec, Packaging Essentials: 100 Design Principles for Creating Packages (Design Essentials), Rockport Publishers; 1 edition, June 1, 2010
- Marianne R. Klimchuk, Sandra A. Krasovec, Packaging Design: Successful Product Branding from Concept to Shelf, John Wiley & Sons, 2006
- Paul Jackson, Structural Packaging: Design your own Boxes and 3D Forms (Paper engineering for designers and students), Laurence King Publishing, 2012

Faculty of Architecture and Planning, Integral University, Lucknow

- Giles Calver, What Is Packaging Design? (Essential Design Handbooks), Rotovision, 2007
- Peng Chong (Editor), Interactive Packaging Design, Design Media Publishing Ltd, 2018
- Pentawards (Editor), The Package Design Book 2 (VARIA), TASCHEN; Mul edition, 2013
- Tony Ibbotson, Peng Chong, Eco Packaging Now , Images Publishing Dist Ac, 2016

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	5	6

B.Des. - VI SEMESTER

BD355 Product Design Studio -IV

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES:

To introduce the students to the system thinking challenges, considerations and deliverables. To understand the relationship of the variants... processes, people, products and parts that contribute towards the functioning of a system.

COURSE CONTENT:

- Introduction to the design intervention in the human realm which add value and quality to the life.
- Identifying system comprehensible, tangible and accessible environments.
- Research of the system, components and stakeholders.
- Understanding the interrelationship and interdependency of various components of identified system.
- Analyzing and mapping the strengths and weakness of the system
- Synthesizing and prioritizing the research observations leading to design brief.
- Formulating the design brief.
- Introducing students to critical creative thinking tools.
- Ideation -- concept generation and explorations with quick explanatory models.
- Finalization of the concept with design development and detailing.
- Prototyping of 3D models.
- Evaluation of new concepts
- Hand and computer Renderings and finished model of the final design solution

SUGGESTED BOOKS

- M. Chakraborti, .Estimation, Costing, Specification and Valuation in Civil engineering.
- Dutta, Estimating and Costing, S. Dutta and Co., Lucknow 1983
- S. C. Rangwala, Elements of Estimating and costing, Charoter publishing House, Anand, India, 1984.
- The interior designers guide: to pricing, estimating budgeting. By Theo Susan

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45Marks
Regularity (Attendance)	10 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
1	-	8	9

B.Des. - VI SEMESTER

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

BD356 Interior Design Studio -IV

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To study and develop innovative schemes for hotel and auditorium interiors. Knowledge of working drawings is also intended.

CONTENTS

UNIT I AUDITORIUM

Spatial and environmental standards for various auditorium – performing arts, cinema, convention centre. Detail schematics of wall paneling, false ceiling and carpeting to satisfy acoustic requirements. Lighting study to develop ideas for foyer, auditorium and stage requirements.

UNIT II FIVE STAR HOTELS

Spatial and service standards for five star hotels – integration of interior design schemes for rooms, restaurants, bars, health clubs, shopping arcade and other guest areas with the general theme of the hotel. Special ideas for suites and banquet halls – contemporary interior schemes to integrate new concepts in lighting and materials.

SUGGESTED BOOKS

- Designs for 20th century Interiors – Fiona Leolie, VH Publications, London.
- Interior Design; The New Freedom, Barbaralec Diamonstein, Rizzoli International Publications, New York, 1982.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15 Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	4	4

B.Des. - VI SEMESTER

Scheme of Examination

CA	T	P/V	Total
60	-	40	100

BD357 Dissertation

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- To introduce students to the techniques of collecting and synthesizing the data , documenting the data through research , fact findings and establishing the fact , which will ultimately lead to their graduation project.
- Analysis of the data and the statistics and establishing a fact, leading to the generation of a design opportunity.

CONTENTS

1. Selecting a subject .establishing relevance through facts, statistics of the social, cultural economic feasibility etc
2. Doing research by reading , collecting information and statistics, questionnaire.etc
3. Learning various data collection methods.
4. Selecting the related case studies either live or book to understand the typology.
5. Synthesizing and documenting the data, information, findings etc , and establishing the fact by concluding to establish the feasibility of the design proposal which ultimately leads to the generation of a design opportunity

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	45 Marks
Regularity (Attendance)	15Marks
Total	60 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
-	-	-	-

B.Des. - VII SEMESTER

Scheme of Examination

CA	T	P/V	Total
300	-	300	100

BD431 Training

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

Training Rules: Practical Training:

- The Head of Department of Architecture will approve the office of the ‘Practical-Training’ for the student.
- The marks for ‘Practical Training’ will be awarded to each student in accordance with the Regulations and Guidelines issued separately by the University.

Aims of Practical Training:

- The aim of the ‘Practical Training’ is to enable the students to gain the kind and range of practical experience which will prepare them for their likely responsibilities, immediately after qualifying B. Des Course.
- The ‘Practical Training’ should be regarded as an important academic activity. Howsoever good the arrangement of training may be, the trainee student, still, has the responsibility to use his own initiative in making the best use of the opportunities which he/she gets during training period and prepare himself/herself for the profession.
- The student should try to seek a variety of experiences in his/her ‘Training office’ to acquaint himself/herself with various works, procedures etc.

GUIDELINES FOR A STUDENT TRAINEE:

HONORARIUM/STIPEND

- Offices usually pay some amount as honorarium/stipend to meet out of pocket expenditure to the trainee. The University shall have no objection if the trainees accept/receive such honorarium/stipend.
- The mode and amount of the honorarium shall depend upon the office and be based upon a mutual agreement between the employing Firm and the trainee. However, it shall neither be a claim of the trainee nor binding on the firm but for proper professionalism and to maintain the dignity of profession, the training office pay a respectable amount as stipend/honorarium.
- The University/Training and Placement cell of the Institute shall not in any way be responsible for the payment against any sorts of damages, whatsoever.

CODE OF CONDUCT FOR THE TRAINEE

- He/she shall abide by the rules, regulations and general instructions of the office/firm.
- He/she shall remain punctual and regular in attendance.
- He/she shall make all efforts to learn the work involved in the profession, and if so required for work, shall attend the office beyond the scheduled time in the office.
- He/she shall respect and obey the senior members of the office/firm.
- He/she shall take up the job with full responsibility and show utmost interest in the work allotted.
- He/she shall inform the institute/training and placement cell about joining in the training office, its address and contact numbers. He/she shall also inform the address of the accommodation acquired during the training period.
- He/she shall remain in regular touch with the University/ ‘Training and Placement Cell’ and shall keep the Training and Placement Cell fully informed about his/her progress in the training office.
- In case of any complaint or misconduct, the University/Training and Placement Cell may take suitable and strict action against the student.

. JOINING AND LEAVING THE TRAINING OFFICE

- The trainee is expected to join the training office on the scheduled date, and submit his 'Joining Report' on the letterhead of the office duly signed by Head of the Training to the Institute in the Proforma prescribed for the purpose and contained in the Log Book.
- The trainee must obtain a 'No Dues Certificate' duly and get relieved from the office at the end of the training period or before changing the 'Training Office'. The trainee must submit this 'No Dues Certificate' along with the Log Book.

. CHANGE OF TRAINING OFFICE

- In case of any emergency, a trainee may be permitted to change the training office/place of training once only during the entire period of training. He/she shall inform the Principal/Director/Head of Department/Officer in-charge of the 'Training and Placement Cell', and seek prior permission for such a change.
- The total duration of the practical training shall be the sum of the period of stay in different offices. It shall be in conformity with the 'Duration of Training' as prescribed in the 'Ordinances, Scheme of Examination & Syllabus' of the University

FINAL SUBMISSIONS

- After completion of practical training, the trainee is required to submit the following in the University.
- 'Certificate' of successful completion of the practical training mentioning the attendance in percentage, from the architect.
- 'Daily Diary' with details of the day to day work record, which will be returned to the student after assessment and viva voce examination. The suggested 'Proforma' of the page of the daily diary is available in the prescribed 'Log-Book'.
- 'Training report' supplemented with the prints and documents of work done during practical training. The prints and documents shall be obtained with the permission of the office and shall be duly signed by the 'Supervisor'.
- Training report shall be submitted in three copies. First copy shall be returned to the student after assessment of Continuous Assessment marks and viva voce examination. The second copy shall be retained by the Training and Placement Cell/library. These shall be presented in A-4 size with ring binding.

FAILURES:

- In case the student/trainee remains unsuccessful or fails in completing his/her practical training or viva-voce examination, the matter shall be dealt with in accordance with the relevant 'Rules and Regulations' of the University.

Scheme of Teaching

L	Tu.	S/SS	Total
3	-	24	27

B.Des. - VIII SEMESTER

Scheme of Examination

CA	T	P/V	Total
300	-	300	600

BD432 Thesis

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

LEARNING OBJECTIVES:

- Design Thesis, as a dissertation will:
- Be able comprehend the design philosophy, theories, data collection and analysis and application in a chosen area of study.
- Guide students in Report making methodologies and presentation of collected data in a systematic manner for clear understanding.

COURSE OUTLINE:

- Each student is expected to prepare a design thesis based on the topic chosen under an approved guide or mentor.
- Thesis should reflect the knowledge gained from all the courses undertaken by the student in all the previous semesters.
- The particulars of the schedule, content, presentation, format etc. is to be decided by the department from time to time and will be strictly followed.
- At the end of the semester each student is expected to submit all original drawings prepared as per the department specifications. Three copies of the report/dissertation in the specified format should be submitted to the department after the approval of the respective guides.
- The department will schedule the viva voce at its convenience only after the receipt of the thesis by the student. The performance sheet submitted by the guide and thesis committee should be the basis for allowing the student to appear for the final viva voce.
- The end exam is to be conducted by a jury comprising of an external examiner. One internal examiner and head of the department or his nominee.
- Plagiarism check will be undertaken before the internal submissions.

Scheme of Teaching

L	Tu.	S/SS	Total
2	1	-	3

**B.Des. - VIII SEMESTER
BD433 Professional Practice**

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L = Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Knowledge about laws and ethics of designers and minimum requirements for establishing own firm.

CONTENTS

UNIT 1: ENTREPRENEURSHIP

Social Entrepreneurship, Business Entrepreneurship, Trading Entrepreneurship, Corporate Entrepreneurship, and Agricultural Entrepreneurship

UNIT 2: BUSINESS FOUNDATION

Timmons Model of Entrepreneurship, Investment Models, Startup Business Models, Business Plans, Pitch presentations, Small Business models

UNIT 3: Legal aspects of business Contracts and Agreements, Conflict Resolution, Arbitration

UNIT 4: Running a Design Business Set up of an independent design business, Hiring processes, Project Scheduling and work delegation, Cost Estimation; Billing, salaries and taxation

UNIT 5: PROFESSIONAL ETHICS Ethics in Profession, Code of conduct

SUGGESTED BOOKS

- Riadh Habash, Green Engineering: Innovation, Entrepreneurship and Design, 2017
- Ted Crawford, AIGA Professional Practices in Graphic Design, Allworth Press, 2008
- Douglas Davis, Creative Strategy and the Business of Design, 2016
- Shan Preddy, How to Run a Successful Design Business:
- The New Professional Practice, Gower Publishing, Ltd., 2011
- Min Basadur, Michael Goldsby, Design-Centered Entrepreneurship, 2016

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VIII SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD434 Elective IV : Entrepreneurship Development

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- **To understand and develop the skill of Entrepreneurship in students**

CONTENTS

Unit – I: Entrepreneurship – Meaning – Importance, Types – Roles of Entrepreneurs in Economic Development – Qualities of an Entrepreneur – Entrepreneurship as a career.

Unit – II: How to start Business – Product selection – Form of ownership – plant location – Land, Building. Water and Power – Raw Materials – Machinery – Man Power – Other – Infrastructural facilities – Licensing Registration and local byelaws.

Unit – III: Institutional arrangement for Entrepreneurship Development – D.I.C., I.T.C.O.T., S.I.D.C.O., N.S.I.C., M.S.M.E., – Institutional Finance to Entrepreneurs. T.I.I.C., S.I.D.B.I., Commercial Banks – Incentives to small scale Industries.

Unit – IV: Project Report – Meaning and Importance – Project Identification – Contents of Project Report – Formulation of a project report – Project appraisal – Market Feasibility – Technical Feasibility – Financial Feasibility and Economic Feasibility.

Unit – V: Entrepreneurship Development in India – Women Entrepreneurship in India – Sickness in Small scale industries and their remedial measures.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	25 Marks
Regularity (Attendance)	10 Marks
Mid Term Test	15 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VIII SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD435 Elective IV : Revitalization of Art & Craft

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

GOAL:

The course provides an understanding of the role of revitalization of Art/craft form in interior spaces.

OBJECTIVES OF THE COURSE:

- Understanding of Art/craft forms as design elements and its relevant application in the modern society.
- Modernization of old craft technology for better forms for interior use.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

- Dexterity; knowledge of materials, process, technology and products of craft forms- production of craft forms and technology.
- Identification of private and public craft activity around the nation – various crafts and its perception in the society - design issues in transforming old craft forms into modern context by keeping its original spirits.
Assignment: Select one of the art/ craft form with the consultation of the faculty. Visit to the craft pockets.
- Document people, life, culture and craft and understand the materials, tools, technology, processes and forms. Suggest suitable changes in technology to improve the products so as to make it acceptable in today's context. Design and produce a product related to interiors in contemporary design.
- Note: The work will be periodically reviewed. The study has to be presented in the form of a report with illustrations and photographs, as a seminar for final assessment, along with the final product to the jury.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 Marks
Regularity (Attendance)	10 Marks
Total	50 Marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VIII SEMESTER

**BD436 Elective IV : Interior Accessories
& Product Design**

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Study of different approaches ,material, and design development for creating unique product and accessories

CONTENTS

UNIT- I NEED OF STUDY

Insight of various products and lifestyle accessories in the interiors. Role of accessories in interiors. Integration of accessories in interior design. Design approaches in product and lifestyle accessories design with a focus on functionality, ergonomics, aesthetics, multiple usages etc.

UNIT –II STYLISTIC DEVELOPMENT

Stylistic development of decorative accessories from the past to present with insight into technological advances and the influences of social, economic and political factors on their design. Brief study of period room settings with the context of decorative accessories complementing the architecture and interior design.

UNIT- III MATERIAL STUDY

Study of materials and processes adopted in accessories design. Basic understanding of construction principles, anthropometrics, principles of sizes and proportions, modeling, rapid prototyping, color, texture etc. with broad orientation to socio-cultural and historical context of the sector. Orientation to Indian as well as global context of interiors, trends and market.

UNIT –IV DESIGN APPROACH

Design approach with limited constraints inherent in accessory products. Evolving the strategy of design with integration of technical complexities and lifestyle influences. Development of the design of products and accessories to specific interiors and prevailing trends. Broad based approach towards innovative design and application to multi products and multi materials in manufacturing interior products and lifestyle accessories.

UNIT –V DETAILS

A detailed study involving all the design aspects of any of the following lifestyle accessories: luminaire design, glassware, lighting fixtures, textiles, mirrors, clocks, wall & floor coverings etc.

REFERENCE BOOKS:

- Laura Slack, What is product Design? Roto Vision publishers, 2008
- Treena Crochet and David Vleck, Designer's Guide to Decorative Accessories, Prentice Hall, 1st edition, 2008.
- Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter Worth Heinemann, 1st edition, 2002.
- Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill Education Singapore; 4th edition, 2007
- William Lidwell, Kritina Holden, Jill Butler ,Universal principles of Design, Rockport publishers, 2008.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40Marks
Regularity (Attendance)	10 Marks
Total	50 Mark

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VIII SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD437 Elective IV : Applied Ergonomics

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

To enable students a choice of subjects at the undergraduate level itself so that these could be further developed in the profession or studies at Post Graduate levels if the student so desires.

UNIT 1: INTRODUCTION TO ERGONOMICS

Definitions of Ergonomics and its classification, application and overview, Concept of Man Machine Environment System

UNIT 2: HUMAN BODY & ITS SYSTEM

Overview of the Human Body and it's subsystems, Understanding musculoskeletal system and its function in terms of manual activities, Understanding nervous system, human sensory organs and their limitations.

UNIT 3: ANTHROPOMETRY

Understanding and applications of anthropometry; Basic anatomy, measurement system, types; static, dynamic, posture, joint, movement; Study of work posture and its impact on human performance; Physical environment and their impact on human performance

UNIT 4: PRODUCT ERGONOMICS

Understanding of product ergonomics; Man, machine and Interaction

UNIT 5: SAFETY INJURY PREVENTION,

safety, vibration, shock, fatigue and occupational hazard; Error handling

APPLIED ERGONOMICS

Introduction to Human Function- Human being in the manmade world and importance of ergonomics, Gross human anatomy; Ergonomics and Design- Introduction to Anthropometrics: static and dynamic; Disability, Ageing and Inclusive Design- Built environment for the physically handicapped.

METHODOLOGY

- Choice of subject and detailed syllabus for the subject shall be finalized on year to year basis depending upon the expertise available.
- The experts in the field will deliver lectures and demonstrate the latest techniques for development of skills.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 marks
Regularity (Attendance)	10 marks
Mid Term Test	Not applicable
Total	50 marks

Scheme of Teaching

L	Tu.	S/SS	Total
2	-	-	2

B.Des. - VIII SEMESTER

Scheme of Examination

CA	T	P/V	Total
50	50	-	100

BD438 Elective IV : Portfolio Development

Abbreviations: L =Lectures; P = Practical; Tu. = Tutorial; S/SS = Studio
T = Theory, V = Viva-voce, CA = Continuous Assessment

OBJECTIVES

- Methods and techniques to develop impressive and Professional portfolios.

CONTENTS

PORTFOLIO DESIGN FOR ONESELF (STUDIO) Students are expected to prepare a professional portfolio for themselves which will include their CV and works which they have been done during the course period. The portfolio should have a proper layout and design and should maintain professional standards and norms.

METHODOLOGY

- Choice of subject and detailed syllabus for the subject shall be finalized on year to year basis depending upon the expertise available.
- The experts in the field will deliver lectures and demonstrate the latest techniques for development of skills.

CONTINUOUS ASSESSMENT REQUIREMENTS

Monthly Assessment (Assignments)	40 marks
Regularity (Attendance)	10 marks
Mid Term Test	Not applicable
Total	50 marks

Faculty of Architecture and Planning, Integral University, Lucknow