

BACHELOR OF DESIGN (B.Des.)
(INTERIOR DESIGN)

Preamble:

Creativity is the essence of Interior Design. Interior Design is an art and process of designing the Interior spaces. Interior Design deals with the optimum utilization of space, physical comfort and visual enrichment. An Interior Designer can take undertake projects that includes arranging the basic layout of space within the building as well as projects that requires understanding of Technical issues. Interior Design is now a specialized branch of the building industry. It requires deep knowledge of style, new techniques and latest materials as a profession Interior Design offers great challenges and sky is the limit.

Aims & Objective: -

- The programme structure attempts to blend appropriate technical knowledge and skills, personal and professional skills and substantive ‘hands-on’ and field / site experience required in the trade.
- To integrate NSQF level in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global work force.
- The learners will have flexibility to develop themselves according to their strengths and career interests.
- To stimulate sensitivity and unveil creative talents.
- To reinforce intellectual capabilities and develop proficiency in professional skills to enable graduates to competently pursue alternative careers, within the broad spectrum of architecture.
- To provide opportunities to students to try out the role they will eventually play as responsible members of the society, under supervision and interactive guidance.

Curriculum: -

The curriculum has been structured as 4 years course in which there are two exit policies.

1. After completion of 1 year, student may exit the course with exit **Certificate in Interior design.**
2. After Completion of 3 years, student may exit the course with **Bachelor of Science (B.Sc.) in Interior Design.**

Bachelor of Design (B.Des.) in Interior Design Degree shall, however be awarded after completing the entire course spread over eight semesters based on the rules and regulations defined by the university from time to time.

Eligibility criteria:

- **For admission in 1st year-** Passed 10+2 Examination or diploma from any recognized Board or an institution established by Central/State Government through a legislation with a minimum of 40% marks in any stream.
- **Lateral entry (2nd year)-** Passed three-year diploma in Architectural Assistantship or a three-year diploma in Interior Design from a recognized Board or an institution established by legislation from the Central or State Government through a legislation.

Intake: - 30 Students

MRSPTU

**BACHELOR OF DESIGN
(INTERIOR DESIGN)**

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STUDY SCHEME

Bachelor of Design (Interior Design) - 1st Semester**Total Contact Hours = 24****Total Marks = 700****Total Credits = 21**

SEMESTER 1 st		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BMNCC0-053	Introduction to Interior Design	2	0	0	0	100	0	100	0	No Exam
BDIDS1-101	Interior Design Studio – I	2	0	4	0	40	60	100	6	3
BDIDS1-102	Materials and Const.- I	2	0	3	0	40	60	100	5	3
BDIDS1-103	Manual Graphics – I	2	0	3	0	40	60	100	5	3
BDIDS1-104	History of Int. Design - I	2	0	0	0	40	60	100	2	3
BDIDS1-105	Elements of Interior Space	1	0	1	0	40	60	100	2	3
BDIDS1-106	Model Making	0	0	0	2	60	40	100	1	No Exam (External Viva -Voce)
BMNCC0-010	Universal Human Values - I	22 Hrs (to be completed during SIP)*				Satisfactory/ Unsatisfactory			No Exam	
Total		11	0	11	2	360	340	700	21	

- There will be an Induction Programme for three weeks before classes start.
- Educational Tour of duration up to 4 days during the semester may be undertaken

Bachelor of Design (Interior Design) -2nd Semester**Total Contact Hours = 28****Total Marks = 700****Total Credits = 24**

SEMESTER 2 nd		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-201	Interior Design Studio – II	2	0	4	0	40	60	100	6	6
BDIDS1-202	Materials and Const. - II	2	0	3	0	40	60	100	5	3
BDIDS1-203	Manual Graphics – II	2	0	3	0	40	60	100	5	3
BDIDS1-204	Theory of Interior Design	2	0	0	0	40	60	100	2	3
BDIDS1-205	Digital Graphics – I	1	0	0	4	40	60	100	3	No Exam (External Viva -Voce)
BHSMC0-026	Universal Human Values - II	2	1	0	0	100	0	100	3	No Exam
BMNCC0-041	Drug Abuse: Problem, Management & Prevention	2	0	0	0	100	0	100	0	No Exam
Total		13	1	10	4	400	300	700	24	

- An exit certificate in interior design can be opted after completing one year of this course.
- Drug Abuse: Problem, Management & Prevention & Introduction to Concerned Branch of Engineering are non-credit Courses; however, securing an E grade in each is necessary.
- Educational Tour of duration up to 4 days during the semester may be undertaken.

Bachelor of Design (Interior Design) -3rd Semester**Total Contact Hours = 22****Total Marks = 600****Total Credits = 20**

SEMESTER 3 rd		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-315	Interior Design Studio – III	2	0	4	0	40	60	100	6	12 (External by External viva voce)
BDIDS1-316	Materials & Construction-III	2	0	3	0	40	60	100	5	3
BDIDS1-317	Digital Graphics – II	1	0	0	4	40	60	100	3	No Exam (External Viva -Voce)
BDIDS1-318	History of Interior Design - II	2	0	0	0	40	60	100	2	3
BDIDS1-319	Interior Services- I	2	0	0	0	40	60	100	2	3
BDIDS1-320	Interior landscape	2	0	0	0	40	60	100	2	3
Total		11	0	7	4	240	360	600	20	

- Educational Tour of duration up to 6 days during the semester may be undertaken.

Bachelor of Design (Interior Design) -4th Semester**Total Contact Hours = 21****Total Marks = 700****Total Credits = 18**

SEMESTER 4 th		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-421	Interior Design Studio – IV	2	0	3	2	40	60	100	6	12 (External viva voce)
BDIDS1-422	Furniture Design	2	0	0	2	40	60	100	3	3
BDIDS1-423	English Composition & Communication	1	0	0	2	40	60	100	2	3
BDIDS1-424	Interior Services- II	2	0	0	0	40	60	100	2	3
BDIDS1-425	Interior Lighting	2	0	0	0	40	60	100	2	3
BDIDS1-426	Physical Modelling and Visualization	1	0	0	2	60	40	100	2	No Exam (External Viva -Voce)
BDIDS1-427	Educational Tour-I	0	0	0	0	100	0	100	1	No Exam (Internal Viva -Voce)
Total		10	0	3	8	360	340	700	18	

- Educational Tour-I (BDIDS1-427) of up to 07 days during the semester shall be undertaken and evaluated.
- Field Visits/Workshops / Expert Sessions / Visits to Exhibition venues located within the Northern Region (India) shall be planned.

B. Interior Design (5th Semester)**Total Contact Hours = 26****Total Marks = 600****Total Credits = 19**

SEMESTER 5 th		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-528	Interior Design Studio – V	2	0	3	2	60	40	100	6	6 (External viva voce)
BDIDS1-529	Working Drawing	2	0	2	2	40	60	100	5	No Exam (External Viva -Voce)
BDIDS1-530	Estimation and Costing	1	0	0	2	40	60	100	2	3
BDIDS1-531	Contemporary Interior Designers	2	0	0	2	40	60	100	2	3
BDIDS1-532	Interior Services- III	1	0	0	2	40	60	100	2	3
BDIDS1-533	Interior Aesthetics- II	1	0	0	2	40	60	100	2	3
Total		9	0	5	12	260	340	600	19	

- Educational Tour of duration up to 8 days during the semester may be undertaken.

B. Interior Design (6th Semester)**Total Contact Hours = 00****Total Marks = 100****Total Credits = 20**

SEMESTER 6 th		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-634	Practical training of 24 weeks duration	0	0	0	0	40	60	100	20	No Exam (External Viva - Voce)
Total		0	0	0	0	40	60	100	20	

**** Bachelor of Science (B.Sc.) in Interior Design may give after completion of 6 semesters.**

B. Interior Design (7th Semester)**Total Contact Hours = 16****Total Marks = 400****Total Credits = 15**

SEMESTER 7 th		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-735	Interior Design Studio – VI	2	0	4	4	60	40	100	8	6 (External viva voce)
Department Elective – I (Select any one)										
BDIDS1-736	Photography and Journalism	1	0	0	2	40	60	100	3	3
BDIDS1-737	Lifestyle accessories design									
BDIDS1-738	Interior Design Codes									
BDIDS1-739	Project Management									
Open Elective – I (Select any one)		1	0	0	2	40	60	100	3	3
BDIDS1-740	Educational Tour-II	0	0	0	0	100	0	100	1	No Exam (Internal Viva -Voce)
Total		4	0	4	8	240	160	400	15	

- Educational Tour-II (BDIDS1-740) of duration up to 15 days during the semester shall be undertaken and evaluated.

B. Interior Design (8th Semester)**Total Contact Hours = 28****Total Marks = 300****Total Credits = 19**

SEMESTER 8 th		Contact Hrs.				Marks			Credits	Duration of Exam Hrs
Subject Code	Subject Name	L	T	S	P	Int.	Ext.	Total		
BDIDS1-841	Interior Design Studio – VII (Thesis Project)	10	0	0	10	60	40	100	15	No Exam (External viva voce)
Department Elective – II (Select any one)										
BDIDS1-842	Green Interiors	2	0	0	2	40	60	100	2	3
BDIDS1-843	Interior Maintenance									
Department Elective – III (Select any one)										
BDIDS1-844	Product design	2	0	0	2	40	60	100	2	3
BDIDS1-845	Set Design									
Total		14	0	0	14	140	160	300	19	

Overall Marks /Credits

Semester	Marks	Credits
1 st	700	21
2 nd	700	24
3 rd	600	20
4 th	700	18
5 th	600	19
6 th	100	20
7 th	400	15
8 th	300	19
Total	4100	156

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1st SEMESTER
MRSPTU

INTRODUCTION TO INTERIOR DESIGN

(BMNCC0-053)

Uni. Exam. Marks : No Exam

Duration: 30 Hours

Sessional Marks : 100

(L-2, T-0, S-0, P-0, C=0)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To appraise students with the knowledge, skills, and abilities necessary for a successful career in the field.

3. COURSE OUTCOME

- To Understanding the different methods of design presentation and its deliver.
- To understand the basics of Interior design and its implementation.
- To understand the larger scope of Interior design associated fields.
- Understanding the impact of Interior Project Management on the built environment.
- To understand the role of Portfolio, Internship & its contribution towards professional practice.

Unit-I (10 Hours)

Fundamentals of Design and Applications

- Introduction to basic design principles and elements.
- Design process: problem definition, research, concept generation, sketching, development, presentation, spatial relationships and proportions.
- Architectural Drafting and Drawing, Computer-Aided Design (CAD), Interior Materials and Finishes, Manual Graphics

Unit-II (10 Hours)

Interior Design and Allied Fields

- Interior Materials and Finishes, Interior Lighting, Furniture Design
- Color Theory and Application, Environmental Psychology
- Project Management

Unit-III (10 Hours)

Portfolio, Internship and Professional Practices

- Presentation skills for design projects, practicum to provide real-world experience
- Ethics and responsibilities, Client communication and Project presentation

RECOMMENDED BOOKS

1. Architecture - Form, Space and Order by Francis D.K. Ching
2. The Interior design Handbook: Furnish, Decorate and style your space by Frida Ramstedt.
3. The Interior design Reference & Specification Book by Chris Grimley.
4. Building drawing, 3rd edition – M G Shah, C M Kale, Tata Mcgraw – Hill publishing, New Delhi.
5. S. C. Rangwala - Engineering materials - Charotar Publishing, Anand
6. Architectural Graphics by Francis D.K. Ching
7. Interior Design Illustrated by Francis D.K. Ching

INTERIOR DESIGN STUDIO – I
(BDIDS1-101)

Uni. Exam. Marks : 60

Duration: 90 Hours

Sessional Marks : 40

(L-2, T-0, S-4, P-0, C=6)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To make students familiar with various factors affecting the aesthetic and functional aspects of design through training them in two-dimensional and three dimensional design compositions.

3. COURSE OUTCOME

- Understanding various design principles such as emphasis, balance, contrast, Harmony, Unity etc., and applying them in two-dimensional and three-dimensional compositions.
- Understanding and applying design elements such as Point, Line, shape, color, texture, area, mass, volume etc.
- Critical analysis of design of existing manmade objects, aiding self-criticism of design and inspiration from nature as a source for design.
- Understanding the process involved in design including analysis, synthesis and evaluation.
- To understand the evolution of design from basic concepts to design outputs.
- To collaborate both technical knowledge along with creativity, theme and rendering output.

Unit-I (30 Hours)

Designs involving various elements such as point, line, shape, colour and texture – applied to compositions such as mural design, fabric design, mosaics, stained glass, engraving, block printing, collage etc. – involving all the principles of composition.

Unit-II (30 Hours)

3D sculptures involving platonic solids, wooden sculptures applying different types of carpentry joints, design and execution of POP made objects such as: cornices, moldings, brackets, etc., Metal and terracotta sculptures.

Study and critical analysis of man-made objects – their purpose, functional suitability, formal appeal, etc. – evolving suggestions for improvement of the same.

Unit-III (30 Hours)

Study and analysis of forms, patterns and color schemes in nature. Abstraction of natural forms and design of three-dimensional objects and two-dimensional patterns inspired by them.

RECOMMENDED BOOKS

1. Paul Laseau, Graphic Thinking for Architects and Designers, John Wiley & Sons.
2. TrewinCopplesstone, Arts in Society, Prentice Hall Inc.
3. H. Gardner, Art through Ages.
4. David Fair, Design Graphics, Hodder and Stoughton.
5. Architectural arts and Sculpture, Guild Source Books.
6. Virginia Cobb Watson, Discovering the Inner Eye, Guptill Publication.
7. JohannessItten, The Art of Colour.
8. H.H. Arnason, History of Modern Art

INSTRUCTIONS TO QUESTION PAPER SETTER

1. The examiner is required to set a total of six questions with two questions from each UNIT.
2. The student is required to attempt any one question from each UNIT making a total of three questions.

MATERIALS AND CONSTRUCTION- I
(BDIDS1-102)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-2, T-0, S-3, P-0, C=5)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To familiarise the students of Interior Design on material and construction methodology

3. COURSE OUTCOME

- Understanding the process of building construction from the very first step.
- To understanding the basic components of the buildings envelope for small buildings like Foundations, Walls, Openings, Roofs, Understanding simple roof & floor finishes.
- Understanding masonry construction details
- Developing the knowledge of components of the brick masonry
- Understanding the Types, Uses & Market rates of building materials.
- Understanding the various building materials used in construction of a building with study of their Constituents, Properties.

Unit-I (25 Hours)

INTRODUCTION TO MATERIALS

- Wood - Soft and hardwood, plywood, laminated wood and particle boards – properties, manufacture & uses.
- Synthetic Materials – Different types of Glass, their properties, manufacturing processes and uses. Plastics – injection moulding & other manufacturing methods, etc.
- Fabrics – textile, Jute, leather etc. different types and their uses

Unit-II (25 Hours)

WALLS - TYPES OF MASONRY

Different types - Stone walls – random rubble, coursed rubble, square rubble, polygonal rubble & Ashlar etc. Brick masonry -Types of bonds - single & double Flemish bond, header bond, stretcher bond, rat trap bond, ornamental bonding.

Unit-III (25 Hours)

TILED ROOFS

Drawings indicating various types of sloped & hipped roof Types of sloping roof –lean to & couple roof with Mangalore tiles, country tiles & pan tiles.

STRUCTURAL SYSTEMS

Structures – Components of a load bearing wall &RCC slab roof system - RCC beams, columns and framed structure

BASIC SERVICES

Components of a toilet & bathroom – sanitary ware - W.C., wash basin, bathtub, jacuzzi etc. Sanitary fittings – taps, mixers, shower units

RECOMMENDED BOOKS

1. S. C. Rangwala - Engineering materials - Charotar Publishing, Anand
2. Francis D. K. Ching - Building Construction Illustrated, VNR, 1975
3. W.B.Mckay –Building construction Voll –Longmans, UK 1981
4. W.B.Mckay –Building construction Vol 3 –Longmans, UK 1981

INSTRUCTIONS TO QUESTION PAPER SETTER

1. The examiner is required to set a total of six questions with two questions from each UNIT.
2. The student is required to attempt any one question from each UNIT making a total of three questions.

MANUAL GRAPHICS – I
(BDIDS1 - 103)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-2, T-0, S-3, P-0, C=5)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVE

To make students improve their sketching skills & drawing abilities.

3. COURSE OUTCOME

- To learn rendering of textures of different building materials in pencil.
- To learn the fundamentals of drawing equipment and method of presentation
- To understand variety of forms as a medium for indoor and outdoor sketching
- To learn various colour schemes, tints and shades.
- To make them understand the use of colors & their effects in drawing.
- Isometric views of simple and complex forms.

Unit-I (25 Hours)

INTRODUCTION TO FREE HAND DRAWING

- Basic exercises, Still life, Basic forms, effect of lines to represent textures - Understanding of different types of perspective views using vanishing points, shading exercises etc.

SKETCHING

- Outdoor sketching including Lawns, bushes, Water Bodies, Plants & trees in different media. Indoor sketching – furniture, lights, corridor, lobby, class room etc.

Unit-II (25 Hours)

MEASURED DRAWING

- Lettering - types, Scale, measured drawing of furniture, wall panelling, flooring pattern, ceiling pattern, doors and windows.

GEOMETRICAL DRAWING

- Orthographic projections - Projection of lines, planes and solids, section of primary solids such as pyramids, cones, cylinder, prism, sphere, cuboids, etc.

Unit-III (25 Hours)

ISOMETRIC DRAWING

- Isometric projection of all platonic solids such as cube, cuboids, hexagonal prism, pyramids, cone and sphere etc. – isometric projection of singly and doubly curve surfaces.

RECOMMENDED BOOKS

1. Drawing – A creative Process, Francis D.K. Ching, John Wiley Sons, New York
2. Geometrical drawing for art students, 2nd revised edition - I.H.Morris, Orient Longman, Calcutta, 1995.
3. Architectural drafting and design, 4th edition – Ernest R. Weidhaas, Allyn and Bacon, Boston, 1981.
4. Building drawing, 3rd edition – M G Shah, C M Kale, Tata Mcgraw – Hill publishing, New Delhi.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. The examiner is required to set a total of six questions with two questions from each UNIT.
2. The student is required to attempt any one question from each UNIT making a total of three questions.

HISTORY OF INTERIOR DESIGN - I (BDIDS1 - 104)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To provide the student of Interior Design knowledge on various developments in Interior design through ages.

3. COURSE OUTCOME

- 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.
- To understand the different traditional contemporary art form with different tools and techniques
- To explore the different ornaments and accessories in historic interiors
- To appreciate various styles learnt through individual designs across diverse range of sources
- To understand the role of decorative styles in history of architecture and interior design.

UNIT – I (10 Hours)

EARLY CLASSICAL PERIOD

- Prehistoric Cave paintings – Primitive Designs- Interiors during Egyptian, Greek, Roman, Gothic, Early Christian & Renaissance Periods.

MIDDLEAGES

- Interiors in Romanesque, Gothic, and renaissance periods

UNIT – II (10 Hours)

COLONIAL TO THE BEGINNING OF THE 20TH CENTURY

- Colonial, Victorian designs, Arts & Crafts movement, Art Nouveau, Eclectism, Frank Lloyd Wright.

UNIT – III (10 Hours)

BAUHAUS TO POST WAR MODERNISM

- Walter Gropius/ Bauhaus, De Stijl, Mies Van DerRohe, Le Corbusier, Art Deco, Postwar Modernism.

RECOMMENDED BOOKS

1. Interior Design Course, Mary GilliatCoyran, Octopus Ltd., London
2. Interior Design & Decoration, SherrilWhiton, 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.

INSTRUCTIONS TO THE PAPER SETTER

1. One compulsory question containing 6 questions of 2 marks (12 marks), each requiring short answers, are to be set from the entire syllabus.
2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).

ELEMENTS OF INTERIOR SPACE

(BDIDS1 - 105)

Uni. Exam. Marks : 60

Sessional Marks : 40

Duration: 30 Hours

(L-1, T-0, S-1, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To develop an understanding of point, line & planar elements in defining an interior space.

3. COURSE OUTCOME

- To develop an understanding of various degrees of enclosure, various types of relationship between spaces.
- Understanding of the various effects that could be created by manipulating the enclosing elements such as walls, roof etc.
- Understanding the types of the door and their implementations.
- Knowing about the detailing doors and windows
- Understanding on site construction work.
- Knowing about the detailing types of walls, roofs and floors.

Unit- I (10 Hours)

WALL PLANES

Use of wall planes to create architectural effects - Natural patterns and textures obtained in masonry walls – articulation of openings in wall planes – effect of tilting the vertical axis of wall planes - niches and alcoves - cornices and mouldings etc.

ROOF PLANES

Different types and their visual impact – articulation of skylights and roof apertures – false ceiling – materials, finishes & patterns - types of false ceiling – various types of lighting.

FLOOR PLANES

Various types of flooring – mosaic, tile, stone etc. – aesthetic effects created by flooring material and pattern - graphic patterns and their visual effects – construction details – skirting, moulding, embossing etc. Floor finishes and floor coverings.

Unit – II (10 Hours)

DOORS, WINDOWS AND VENTILATORS, ETC.

Doors – types – flush doors, panelled doors, braced doors, carved wooden doors, metal embossed doors, glazed doors and their relevance – various materials and articulation.

Windows – various types (casement, horizontal sliding, vertical sliding, hopper, pivoted) – various shapes (arched, circular, triangular etc.) various materials (wood, aluminum, steel, PVC) and their suitability to that space – ventilators – louvered, paneled etc.

Unit – III (10 Hours)

CASE STUDIES

Case studies for manipulation of wall, floor and roof planes to create various architectural effects – case studies of various doors, windows and ventilators – case studies of columns, beams etc. for interior effects.

RECOMMENDED BOOKS

1. The making of interiors – An introduction- Allen Tate- Harper & Row Publishers, New York, 1987.
2. Interior Design & Decoration, Fourth Edition, Sherrill Whiton- Prentice Hall, 1974.
3. Interior lighting for Designers, Third edition – Gary Gordon & Jamco L. Nuckolls – John Wiley & Sons, New York, 1995.

4. The Encyclopaedia of Decorative Styles – William Hardy & Steve Adams – New Burlington books, London, 1988.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, are to be set from the entire syllabus.
 2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).
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MODEL MAKING
(BDIDS1 - 106)

Uni. Exam. Marks : 40
Sessional Marks : 60

Duration: 30 Hours
(L-0, T-0, S-0, P-2, C=1)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To introduce the students basics of Model making with various materials.

3. COURSE OUTCOME

- Understand basic carpentry techniques.
- Knowledge of Joinery techniques and various model making techniques.
- Understand methods using different materials.
- Tools used in carpentry.
- Model making techniques using different materials.
- Methods of Preparations of Model

Unit- I (10 Hours)

INTRODUCTION TO MODEL MAKING

Introduction to concepts of model making and various materials used for model making

BLOCK MODELLING

- Preparation of base for models using wood or boards
- Introduction to block models of buildings (or 3D Compositions) involving the usage of various materials like Thermocol, Soap/Wax, Boards, Clay etc.

DETAILED MODELLING

- Making detailed models which include the representation of various building elements like Walls, Columns, Steps, Windows/glazing, Sunshades, Handrails using materials like Mount board, Snow-white board, acrylic sheets.
- Representing various surface finishes like brick/stone representation, stucco finish etc.
- Various site elements – Contour representation, Roads/Pavements, Trees/Shrubs, Lawn, Water bodies, Street furniture, Fencing etc.

Unit – II (10 Hours)

INTERIOR MODELS OF INTERIOR SPACES

Making scaled models of the various interior spaces with furniture such as

- 1) Residences 2) Offices 3) Retail Spaces 4) Recreational Spaces

Unit – III (10 Hours)

CARPENTRY

Introducing techniques of planning, chiselling & joints in timber to learn the use of hand tools.
Exercise involving the design of simple furniture and making a model of the same.

RECOMMENDED BOOKS

1. BENN, The book of the House, Ernest Benn Limited, London
2. Jannsen, Constructional Drawings & Architectural models, Karl Kramer Verlag Stuttgart, 1973.
3. Harry W.Smith, The art of making furniture in miniature, E.P.Duttor Inc., New York, 1982.
4. H.S. Bawa, 'Carpentry- A Complete Guide',

NOTE: Evaluation is to be done through viva voce by external examiner appointed by the university at college level. Answer sheets after the university exam shall be retained at college level for the viva –voce.

2nd SEMESTER
MRSPTU

INTERIOR DESIGN STUDIO – II

(BDIDS1 - 201)

Uni. Exam. Marks : 60

Duration: 90 Hours

Sessional Marks : 40

(L-2, T-0, S-4, P-0, C=6)

1. COURSE PREREQUISITES

The students should have the knowledge of Fundamentals of Interior Design.

2. COURSE OBJECTIVES

To introduce the basics of designing for Residential interiors and to develop skills required for the same.

3. COURSE OUTCOME

- To develop understanding of the scale, function and options existing when designing small-scale spaces in residences such as toilets, kitchens, living, bedrooms etc.
- Development of ideas with regard to false ceiling, wall paneling, flooring, floor coverings, curtains, windows, doors and other elements of residential interiors.
- To understand and create spaces of comfort and spatial quality
- To understand and do a technical drawing of kitchen & toilet related elements and storages.
- To be able to choose the desired finishes and materials for the design based on their technical attributes.
- To understand and do a technical drawing of Residential related interiors & furniture.

Unit-I (30 Hours)

KITCHENS

- Work triangle, planning for activity – anthropometrics – types of kitchen- Modular kitchens. Materials used in counters, shelves, worktops, washing areas & their comparative study. Lighting & color scheme – Natural & Artificial light.

- **TOILETS**

Anthropometry – various types of sanitary ware and their use – types of layouts – concepts in modern day toilet interiors – materials & finishes – colour, texture & pattern.

Unit-II (30 Hours)

BEDROOMS & LIVING ROOMS

- Concepts in bedroom & living room interiors – various layouts of these spaces – the use of furniture and accessories to create a certain type of ambience – materials & finishes – lighting, colour & texture.

Unit-III (30 Hours)

RESIDENCE

- Holistic concepts in residential interiors – ability to integrate various individual spaces into one theme – treatment of patios, courtyards, verandahs & other semi sheltered spaces – integration of built form and open spaces.

RECOMMENDED BOOKS

1. Designs for 20th century Interiors – Fiona Leolie, VH Publications, London, 2000.
2. Interior Design; The New Freedom, BarbaralecDiamondstein, Rizzoli International Publications, New York, 1982.
3. Interior Colour by Design, Jonathan Poore, Rockport Publishers, 1994.
4. Worldwide Interiors – International Federation of Interior Architects & Designers, Rikuyo-Sha, Japan, 1987.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question is to be set from the entire syllabus.

2. Total exam duration will be six hours, with a lunch break following the first three-hour session.

NOTE:

1. Evaluation is to be done through viva voce by external examiner appointed by the university at college level. Answer sheets after the university exam shall be retained at college level for the viva-voce.
 2. The topic of the project is to be displayed on College / Institute Notice Board ten days in advance.
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MRSPTU

MATERIALS AND CONSTRUCTION- II
(BDIDS1 - 202)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-2, T-0, S-3, P-0, C=5)

1. COURSE PREREQUISITES

The student should have the knowledge of basic materials and construction methodology.

2. COURSE OBJECTIVES

To familiarise the students of Interior Design on material and construction methodology

3. COURSE OUTCOME

- To understand the construction of basic elements of an interior space such as walls & partitions, floors & roofs.
- To understand in detail about the types and use of partitions and false ceilings in interior construction industry.
- Understanding the process of building construction from the very first step.
- Knowing about the detailing types of roofs and floors.
- Understanding various color schemes, lighting, textures, etc. in Interior design
- Understanding the materials and techniques used in Interior design

Unit-I (15 Hours)

BUILDING COMPONENTS

Drawings of the components of a building indicating

- Foundation – brick footing, stone footing & RCC column footing
- concrete flooring, plinth beam & floor finish
- superstructure- brickwork with sill, lintel, windows & sunshade
- Flat RCC roof with weathering course, parapet & coping.

FLOORS

Floor coverings- - softwood, hardwood- resilient flooring - linoleum, asphalt tile, vinyl, rubber, cork tiles - terrazzo, marble & granite – properties, uses & lying.

Floor tiles- ceramic glazed, mosaic and cement tiles- properties, uses and laying, details for physically handicapped.

Unit-II (15 Hours)

FALSE CEILING

Construction of various kinds of false ceiling such as styrofoam, plaster of Paris, gypsum board, metal sheets, glass and wood Construction of domes, vaults, & other special ceilings

WALL PANELING

Panelling – Using wooden planks, laminated plywood, cork sheets, fibre glass wool & fabric for sound insulation and wall panelling for thermal insulation.

Unit-III (15 Hours)

FINISHES

Paints- enamels, distempers, plastic emulsions, cement based paints- properties, uses and applications- painting on different surfaces – defects in painting, clear coatings & strains- varnishes, lacquer, shellac, wax polish & strains- properties, uses and applications. Special purpose paints- bituminous, luminous, fire retardant and resisting paints- properties, uses and applications.

RECOMMENDED BOOKS

1. S.C Rangwala – engineering materials – Charotar publishing, Anand 1982
2. W.B McKay, building construction, VOL 1-4, Longmans, U.K 1981
3. Laxmi publications Pvt. Ltd., New Delhi, 1993.
4. Dr. B.C Purnima, building construction, Laxmi publications Pvt. Ltd., New Delhi, 1993.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. The examiner is required to set a total of six questions with two questions from each UNIT.
 2. The student is required to attempt any one question from each UNIT making a total of three questions.
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MRSPTU

Manual Graphics – II
(BDIDS1 - 203)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-2, T-0, S-3, P-0, C=5)

1. COURSE PREREQUISITES

The student should have basic knowledge of sketching and drawing skills.

2. COURSE OBJECTIVE

Students should acquire knowledge of the various drawings, which effectively communicate their designs.

3. COURSE OUTCOME

- To understand the spatial and stylistic qualities associated with design and creativity.
- To understand the purpose of shadows in buildings and in interiors
- To enable a student to understand the theory of perspective in design
- Visualise and convert his/her thoughts and ideas of design into 3-D forms.
- Sciography in plans and elevations.
- Construction of Interior perspectives.

Unit-I (15 Hours)

MEASURED DRAWING

Measured Drawing of Simple objects like Cupboards etc. and building components like Columns, Cornices, Doors, Windows etc.

ISOMETRIC

Isometric View: like Tables, Chairs, Cylindrical & Spherical elements etc.

Axonometric View: like Interior views for living room, Toilet, Dining Room etc.

Unit-II (15 Hours)

PERSPECTIVE

Perspective View: Principles and Visual Effect of three dimensional objects, Study of Picture plane, Station Point, Vanishing Point, Eye level etc. One-point and Two-point perspective for interiors.

Unit-III (15 Hours)

SCIOGRAPHY

Sciography: Principles of Shade and Shadow- Shade and Shadows of Architectural Elements in Interiors. Shadows of Circular/Cylindrical/Spherical elements.

RECOMMENDED BOOKS

1. Perspective & Sciography BY Shankar Mulik, Allied Publishers
2. Perspective Principles, M.G. Shah & K.M. Kale, Asia Publications, Mumbai
3. Geometrical drawing for Art students, I.H. Morris, Orient Longman, Chennai
4. N.D. Bhatt, 'Engineering Drawing'
5. Ching Franc D.K., 'Architectural Graphics'
6. Robert W. Gill, 'Rendering with Pen and Ink', Thames & Hudson London, 2008.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. The examiner is required to set a total of six questions with two questions from each UNIT.
2. The student is required to attempt any one question from each UNIT making a total of three questions.

THEORY OF INTERIOR DESIGN
(BDIDS1 - 204)

Uni. Exam Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

The object of this course is to make students understand the various aspects such as spatial quality, design vocabulary, design principles, and design process related to the design of interiors.

3. COURSE OUTCOME

- Understanding various aspects such as form, scale, light, dimension, height, transitional elements etc. affecting interior space.
- Understanding and applying design vocabulary such as Point, Line, shape, color, texture, area, mass, volume etc.
- Understanding and applying design principles such as ratio, proportion, scale, balance, harmony, unity, variety, rhythm, emphasis.
- Understanding the process involved in design including analysis, synthesis and evaluation.
- To analyse and identify the anthropometrics and ergonomics in daily life
- To understand and analyse the stress factors on human body in various tasks

Unit – I (10 Hours)

INTERIOR SPACE

Space – definition; Interior space – spatial qualities: form, scale, outlook; structuring space with interior design elements; spatial form; spatial dimension – square, rectangle, curvilinear spaces; height of space; spatial transitions – openings within wall planes, doorways, windows, stairways.

Unit – II (10 Hours)

DESIGN VOCABULARY

Form – point, line, volume, shape, texture & colour – in relation to light, pattern etc. and application of the same in designing interiors.

DESIGN PRINCIPLES

Ratio; proportions – golden section; relationships; scale; Balance – symmetrical, radial, occult; harmony; unity; variety; rhythm; emphasis.

Unit– III (10 Hours)

ANTHROPOMETRICS

Definition, theory of standard dimension based on human figures for activities, functions, circulation, furniture design, spatial requirements etc.

Study of Ergonomics

Design of Furniture for Living, Dining, Kitchen, Office etc.

DESIGN CONTROL

Design process – Analysis, synthesis, design evaluation; Design criteria – function and purpose, utility and economy, form and style; human factors - human dimensions, distance zones, activity relationships; fitting the space – plan arrangements, function, aesthetics.

RECOMMENDED BOOKS

1. Francis. D. K. Ching, Interior design Illustrated, Van Nostrand Reinhold
2. John. F. Pile, Interior Design, Harry Abrams Inc.
3. Sam. F. Miller, Design process – a primer for Architectural and Interior Design, Van Nostrand Reinhold.
4. Gary Gordon, Interior lighting for designers, John Wiley & Sons Inc.

5. Harold Linton, Colour in Architecture, McGraw Hill
6. Jonathan Poore, Interior Colour by Design, Rock Port Publishers.
7. Sherrill Winton, Interior Design and Decoration, Prentice Hall.
8. JohannesItten, the Art of Colour, John Wiley and Son

INSTRUCTIONS TO THE PAPER SETTER

1. One compulsory question containing 6 questions of 2 marks (12 marks), each requiring short answers, are to be set from the entire syllabus.
 2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).
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MRSPTU

DIGITAL GRAPHICS - I
(BDIDS1 - 205)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-1, T-0, S-0, P-4, C=3)

1. COURSE PREREQUISITES

Nil.

2. COURSE OBJECTIVES

The students should be made aware of the role and importance of Computers in the field of Interiors.

3. COURSE OUTCOME

- Student shall be able to understand the use of Computer as an aid to drafting and presentation of Interior design projects.
- To understand the basic components of operating on menu and setup wizard
- To work on drafting a plan with dimensioning and layers
- To understand the various tools on Photoshop
- Advanced commands like layers, viewports, layer-Iso and other 2D commands.
- To understanding 3-D Modeling on Auto cad

Unit- I (15 Hours)

2-D AUTOCADD:

1. Introduction to Autodesk Cad and Revit.
2. Advanced commands like layers, viewports, layer-iso and other 2D commands.
3. Drafting the complex and multi storied Plans, Sections, and Elevations.
4. Text writing and dimensioning of the Plans, Elevation and Sections

Unit- II (15 Hours)

3-D AUTOCADD:

1. Rendering in the Auto Cad
2. 3-D Modeling on Auto cad of Single Storey and Multi Storey Buildings,
3. 3-D Modeling of Multiple Building in a Single Site, Camera View of the Buildings.

Unit- III (15 Hours)

BASICS OF ADOBE PHOTOSHOP

Tool box (Moving , marquee tool), Magic ward selection, Crop tool, Paint Brush, Opacity, Tent Styles, Blue tool, Sharpening Tool, Color correction, Layers, moving Tool, Masking Tool.

INSTRUCTIONS TO QUESTION PAPER SETTER

The evaluation of student shall be based on the practical conducted based on a specific problem given to assess and evaluate the knowledge of students related to course defined above.

UNIVERSAL HUMAN VALUES -II
(BHSMC0- 026)

Uni. Exam. Marks : No Exam
Sessional Marks : 100

Duration: 45 Hours
(L-2, T-1, S-0, P-0, C=3)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

This course is intended to provide a much needed orientation input in value education to the young enquiring minds.

3. COURSE OUTCOME

1. To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.

2. To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of existence. Such a holistic perspective forms the basis of Universal Human Values and movement towards value-based living in a natural way.

3. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.

Unit I (09 Hrs.)

Introduction to Value Education Lecture: Understanding Value Education, Self-exploration as the Process for Value Education, Continuous Happiness and Prosperity – the Basic Human Aspirations, Right Understanding, Relationship and Physical Facility, Happiness and Prosperity – Current Scenario, Method to Fulfil the Basic Human Aspirations

Unit II (12 Hrs.)

Harmony in the Human Being: Understanding Human being as the Co-existence of the Self and the Body Lecture 8: Distinguishing between the Needs of the Self and the Body, The Body as an Instrument of the Self, Understanding Harmony in the Self, Harmony of the Self with the Body, Programme to ensure self-regulation and Health

Unit III (09 Hrs.)

Harmony in the Family and Society: Harmony in the Family – the Basic Unit of Human Interaction, Values in Human-to-Human Relationship, 'Trust' – the Foundational Value in Relationship, 'Respect' – as the Right Evaluation, Exploring the Feeling of Respect, Understanding Harmony in the Society, Vision for the Universal Human Order

Unit IV (15 Hrs.)

Harmony in the Nature/Existence: Understanding Harmony in the Nature, Interconnectedness, self-regulation and Mutual Fulfilment among the Four Orders of Nature, Realising Existence as Co-existence at All Levels, The Holistic Perception of Harmony in Existence

Implications of the Holistic Understanding – A Look at Professional Ethics: Natural Acceptance of Human Values, Definitiveness of (Ethical) Human Conduct, A Basis for Humanistic Education, Humanistic Constitution and Universal Human Order, Competence in Professional Ethics, Holistic Technologies, Production Systems and Management Models Typical Case Studies, Strategies for Transition towards Value-based Life and Profession

SUGGESTED READINGS:

Text Book and Teachers Manual

- a. The Textbook A Foundation Course in Human Values and Professional Ethics, R R Gaur, R Asthana, G P Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978- 93-87034-47-1
- b. The Teacher's Manual Teachers' Manual for A Foundation Course in Human Values and Professional Ethics, R R Gaur, R Asthana, G P Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978- 93-87034-53-2 3.2

RECOMMENDED BOOKS

1. JeevanVidya: EkParichaya, A Nagaraj, JeevanVidyaPrakashan, Amarkantak, 1999.
 2. Human Values, A.N. Tripathi, New Age Intl. Publishers, New Delhi, 2004.
 3. The Story of Stuff(Book).
 4. The Story of My Experiments with Truth - by Mohandas KaramchandGandhi
 5. Small is Beautiful - E. F Schumacher.
 6. Slow is Beautiful - Cecile Andrews
 7. Economy of Permanence - J CKumarappa
 8. Bharat Mein Angreji Raj - PanditSunderlal
 9. Rediscovering India - by Dharampal
 10. Hind Swaraj or Indian Home Rule - by Mohandas K. Gandhi
 11. India Wins Freedom - Maulana Abdul Kalam Azad
 12. Vivekananda - Romain Rolland (English)
 13. Gandhi - Romain Rolland (English)
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DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION
(BMNCC0 - 041)

Uni. Exam. Marks : No Exam

Duration: 30 Hours

Sessional Marks : 100

(L-2, T-0, S-0, P-0, C=0)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To make students understand the concept of quality management system and apply various techniques in the management of a construction project.

3. COURSE OUTCOME

The student shall be able to apply the techniques of quality management in the various construction activities.

Unit-I (6 Hours)

Meaning of Drug Abuse:

- **Meaning:** Drug abuse, Drug dependence and Drug addiction. Nature and extent of drug abuse in India and Punjab.

Unit-II (8 Hours)

Consequences of Drug Abuse:

- **Individual:** Education, Employment, Income.
- **Family:** Violence.
- **Society:** Crime.
- **Nation:** Law and Order problem.

Unit-III (8 Hours)

Prevention of Drug Abuse:

- **Role of Family:** Parent-child relationship, Family support, supervision, shipping values, active scrutiny.
- **School:** Counselling, Teacher as role-model, Parent-teacher-health professional co-ordination, Random testing on students.

Unit-IV (8 Hours)

Treatment and Control of Drug Abuse:

- **Medical Management:** Medication for treatment and to reduce withdrawal effects.
- **Psychological Management:** Counselling, Behavioural and Cognitive therapy.
- **Social Management:** Family, Group therapy and Environmental intervention.
- **Treatment:** Medical, Psychological and Social Management.
- **Control:** Role of Media and Legislation.

RECOMMENDED BOOKS

1. Ram Ahuja, 'Social Problems in India', Rawat Publications, Jaipur, 2003.
2. 'Extent, Pattern and Trend of Drug Use in India', Ministry of Social Justice and Empowerment, Govt. of India, 2004.
3. J.A. Inciardi, 'The Drug Crime Connection', Sage Publications, Beverly Hills, 1981.
4. T. Kapoor, 'Drug Epidemic among Indian Youth', Mittal Publications, New Delhi, 1985.
5. Kessel, Neil and Henry Walton, 'Alcoholism, Harmond Worth', Penguin Books, 1982.
6. Ishwar Modi and Shalini Modi, 'Addiction and Prevention', Rawat Publications, Jaipur, 1997.
7. 'National Household Survey of Alcohol and Drug Abuse', Clinical Epidemiological Unit, All India Institute of Medical Sciences, New Delhi, 2003 & 2004.

8. Ross Coomber and Others, 'Key Concept in Drugs and Society', Sage Publications, New Delhi, 2013.
 9. BhimSain, 'Drug Addiction Alcoholism, Smoking Obscenity', Mittal Publications, New Delhi, 1991.
 10. Ranvinder Singh Sandhu, 'Drug Addiction in Punjab: A Sociological Study', Guru Nanak Dev University, Amritsar, 2009.
 11. Chandra Paul Singh, 'Alcohol and Dependence among Industrial Workers', Shipra, Delhi, 2000.
 12. S. Sussman and S.L. Ames, 'Drug Abuse: Concepts, Prevention and Cessation', Cambridge University Press, 2008.
 13. P.S. Verma, 'Punjab's Drug Problem: Contours and Characteristics', Vol. LII, No. 3, P.P. 40-43, Economic and Political Weekly, 2017.
 14. 'World Drug Report', United Nations Office of Drug and Crime, 2016.
 15. 'World Drug Report', United Nations Office of Drug and Crime, 2017
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MRSPTU

MRSPTU
3rd SEMESTER

INTERIOR DESIGN STUDIO – III
(BDIDS1 - 315)

Uni. Exam. Marks : 60

Sessional Marks : 40

Duration: 90 Hours

(L-2, T-0, S-4, P-0, C=6)

1. COURSE PREREQUISITES

The students should know the relationship of forms, space, function and order.

2. COURSE OBJECTIVES

To help students understand the interior design process of small-scale building projects with a particular emphasis on on-site analysis and site planning.

3. COURSE OUTCOME

- Students should be able to understand and appreciate the site's constraints in the evolution of design for small building projects.
- Knowledge of handling the flow of masses in buildings like primary schools, dispensaries, convenience shopping, etc.
- Distinguish and appreciate the constraints of the project in the evolution of interior design for small buildings.
- Interior design of spaces that are partly under the preview of urban regulatory controls
- Understand the role of interior design development stages in the outcome.

Unit-I (70 Hours)

Project-I

Institution for Physically Challenged, Old age People, Orphans, Deaf & Dumb

- Scope, objectives and ways to overcome through designing
- Different research institutions & their functions
- Ergonomic Factors & Anthropometries Data, Circulation, Work Surfaces for Different Functions, Arrangement & Clearances, Door Width, Furniture Suggested for them & their Details
 - a) For Reading & Studying
 - b) Dining
 - c) Storing- books & other daily needs.
 - d) Recreational activity
 - e) Toilet facilities
 - f) Ramp, slope
 - g) Parking areas
 - h) Circulation areas
 - i) Lifts
- Space planning and interior designing

Unit-II (20 Hours)

Project-II

- Interior Design of Guest house, Architect/ Interior Design Studio, Doctor Clinic, Road side restaurant/ Dhaba without urban regulatory controls.

Note:

- The faculty may select an existing campus or building as an interior design project. The primary focus will be on interior design aspects. Minor architectural changes can be considered to demonstrate an understanding of architectural principles.
- All students should handle a minimum of two projects individually.
- An expert lecture related to the subject content is to be arranged by an industry expert.

TEACHING METHODOLOGY

For all assignments, the following methodology should be followed, and all stages should be attempted individually.

1. Library and Proto-type Studies
2. Site analysis and site planning
3. Space planning
4. Design development and volumetric studies (model)
5. Preliminary design and volumetric study
6. Final design with detailed volumetric study (Detailed Model) and visual communications (3D Visualisations)

RECOMMENDED BOOKS

1. Ministry of Urban Development and Ministry of Urban Development GOI, Harmonised Guidelines and Spaces Standards for Barrier Free Built Environment for persons with disability and elderly persons. 2016.
2. GoI Ministry of Urban Development, Model Building Bye-Laws- 2016. Ministry of Urban Development, Government of India.
3. Bureau of Indian standards, National Building Code of India 2016
4. Ching, Francis DK., Architecture: Form Space and Order, Van Nostrand Reinhold Co.
5. Ching, Francis D.K., Interior Design Illustrated, John Wiley & Sons, Inc.
6. Chiara, Joseph De and Crosbie, Michael J. Time saver standards for building types, McGraw Hill Education (India) Private Limited
7. Lynch, Kevin and Hack, Gary, Site Planning, The MIT Press Books
8. Carstens, Diane Y. Site planning and design for the elderly, VNR; New Delhi
9. Meuser, Philipp. Accessible architecture: construction and design manual, A Dom Publishers

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question should be set from the syllabus and cover the entire content.
2. The total exam duration will be 12 hours, divided into four sessions, with lunch breaks following the first and third three-hour sessions.
3. Evaluation is to be done through viva voce by an external jury consisting of two examiners appointed by the University at college, and answer sheets should be retained at the college level.
4. The topic of the project is to be displayed on the College / Institute Notice Board ten days in advance.

NOTE: Evaluation is to be done through viva voce by an external examiner appointed by the university at the college level. After the university exam, answer sheets shall be retained at the college level for the viva voce.

MATERIALS AND CONSTRUCTION- III
(BDIDS1 – 316)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 75 Hours
(L-2, T-0, S-3, P-0, C=5)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To familiarise the students of Interior Design with material and construction methodology

3. COURSE OUTCOME

- To understand working drawings
- To explain the Co-relations and cross-referencing in drawings
- To understand elevations, Sections in drawings
- To evaluate technical projections and isometric detailing
- To understand the detailing of material and representation in drawings
- To understand basic anthropometry and layouts of toilets and kitchens.

Unit-I (20 Hours)

FINISHING MATERIALS (PLYWOOD, LAMINATES & VENEERS)

Introduction to Materials: Properties and characteristics of plywood, laminates, and veneers. Applications in interior design and construction.

Layout Techniques and Machining Plans: Measurement and layout techniques for plywood, laminates, and veneers. Tools and machinery used for cutting and shaping.

Fabrication Techniques: Stapling and glueing methods. Safety practices during fabrication.

Furniture Joinery: Types of joints: screw joinery, nail joinery, mortise & tenon joints, dovetail joints, dowel joints, edge joints. Techniques for creating solid and durable joints. Practical exercises and demonstrations.

Unit-II (35 Hours)

KITCHEN DESIGN AND CASE STUDY

Modular Kitchens: Design principles for modular kitchens.

Interior Detailing and working drawings of kitchens: Plumbing diagrams, Electrical layouts, Reflected ceiling plans, Flooring plans, Selection of materials and finishes.

Case Study of Commercial Kitchen: Analysis of a commercial kitchen layout. Evaluation of workflow, materials, and safety considerations. Report and presentation on findings.

JOINERY AND FURNITURE CONSTRUCTION

Joinery: Working drawings of different types of doors and windows. Detailed construction methods and techniques.

Furniture Construction:

Working drawings of various furniture pieces: Drawers. Credenzas. Dining chairs. Sofas and settees.

Cost estimation and material specifications.

Preparation for finishing: Sanding and smoothing. Applying timber finishes.

Detailed construction drawings and explanation of construction and material finishes.

Unit-III (20 Hours)

TOILETS AND PLUMBING

Toilet Design: Working drawings for toilets with plumbing diagrams. Electrical layouts for toilets. Reflected ceiling plans and flooring patterns. Selection of sanitary fixtures and finishes.

Note:

- Field Visits/Workshops / Expert Sessions / Visits to Exhibition venues located within the Northern Region (India) shall be planned.

RECOMMENDED BOOKS

1. Sweet Fay, Kitchens: A Practical Guide to Design and Decor for Your Home, Mere Hurst
2. Do It Yourself, Kitchen Idea, Bland Fore Press
3. National Kitchen Bathroom Association, Universal kitchen and bathroom planning, McGraw Hill
4. Deolalikar, S.G. Plumbing: Design and Practice, Tata McGraw Hill
5. Stitt, Fred A. Working drawing manual, McGraw Hill; New York, John Wiley & Sons. Inc
6. Liebing Ralph W. Architectural working drawings
7. Ching, Francis D.K., Interior Design Illustrated, John Wiley & Sons. Inc
8. Chiara, Joseph De and Crosbie, Michael J. Time saver standards for building types, McGraw Hill Education(India) Private Limited
9. Lynch, Kevin and Hack, Gary, Site Planning, The MIT Press Books
10. Carstens, Diane Y. Site planning and design for the elderly, VNR; New Delhi
11. Meuser, Philipp. Accessible Architecture: construction and design manual, A Dom Publishers

INSTRUCTIONS TO QUESTION PAPER SETTER

The examiner is required to set a total of six questions, with two questions from each UNIT. The student is required to attempt any one question from each UNIT, making a total of three questions.

MRSPTU

DIGITAL GRAPHICS - II
(BDIDS1 - 317)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 45 Hours
(L-1, T-0, S-0, P-4 C=3)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

The students should be able to visualise, draft and render their small design projects into 3-D forms.

3. COURSE OUTCOME

- To have proficiency in 2D and 3D Modelling Software
- To learn about advanced Rendering Techniques
- To understand the effective Use of Presentation Software
- To understand the integration of Software for Comprehensive Design Solutions
- To explore the critical Evaluation and Communication of Design Concepts

Unit- I (15 Hours)

2D AND 3D MODELLING SOFTWARE

SketchUp:

SketchUp Interface, Basic Tools and Commands, Creating Simple 3D Models, Groups and Components, Modifying Models, Using Layers and Tags, Applying Materials and Textures, Creating Custom Materials, Adding and Adjusting Lights, Shadow Settings, Rendering.

Unit- II (15 Hours)

Revit:

Revit User Interface, Basic Drawing and Modify Tools, Setting Up Levels and Grids, Modelling Walls, Doors and Windows, Curtain Wall, working with Views, Adding Components, Modelling Floors, Modelling Ceilings, Modelling Roofs, Vertical Circulation, Creating Construction Documents.

Basic introduction to Rhinoceros 3D and Grasshopper

Unit- III (15 Hours)

RENDERING SOFTWARE

Lumion / 3ds Max / V-Ray / Other Similar Software

Introduction to 3D Rendering and Software Overview, Modelling Basics, Materials and Textures, Lighting and Environment, Cameras and Rendering Settings, Rendering Techniques, Post-production and Visualisation

Explore using Artificial Intelligence to generate 3-dimensional digital models and render views.

RECOMMENDED BOOKS

1. Cardoso, C. (2015). Lumion 3D Best Practices. PACKT.
2. Chavez, C., & Faulkner, A. (2022). Adobe Photoshop Classroom in a Book.
3. Cline, L. S. Sketch Up for Interior Design. Wiley.
4. Hansen, A. R. (2012). Interior Design Using Autodesk Revit Architecture 2024. 688.

NOTE: A workshop to be arranged by an external expert for delivering the updates related to the listed software/ related software to the course.

INSTRUCTIONS TO QUESTION PAPER SETTER

Students will be evaluated through written examinations based on course content and practical assessments centered around specific problem/s. These assessments aim to gauge and evaluate students' knowledge and understanding of the subject.

HISTORY OF INTERIOR DESIGN - II (BDIDS1 - 318)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To understand the need for and applications of water supply and sanitation in buildings, as well as exposure to various fixtures and fittings, water supply, and sanitary installations at work sites.

3. COURSE OUTCOME

- To understand the importance of culture and tradition in the interior.
- To understand the shapes and patterns that emphasize the elements in interiors
- To learn the different types of materials that could bring changes in the country
- To understand imperialism and colonialism in the Indian context
- To learn about the different contemporary styles in interiors

Unit- I (10 Hours)

BUDDHIST, JAIN AND HINDU

Buddhist, Jain and Hindu faith - Harmony between architecture and interior in religious spaces – the play of light and shadow – art, sculpture, mouldings, wall treatments, roof treatments, floor treatments – interiors as a reflection of the faith – examples and case studies across faiths

Unit – II (10 Hours)

CHRISTIAN AND ISLAMIC

Christian and Islamic faith - Harmony between architecture and interior in religious spaces – the play of light and shadow – art, sculpture, mouldings, wall treatments, roof treatments, floor treatments – interiors as a reflection of the faith - – examples and case studies across faiths

Unit – III (10 Hours)

REGIONAL VERNACULAR INTERIORS

Elements of style, materials and concepts of interiors in vernacular secular architecture across North and South India -Jammu and Kashmir – Punjab – Gujarat – Goa - Kerala – Tamil Nadu – examples and case studies

IMPERIALISM AND COLONIALISM IN INDIA

Elements of Style - Ornamentation and decoration – quality of space – Colonial, Regency, Indo-Saracenic - examples and case studies

RECOMMENDED BOOKS

1. Cooper, Ilay and Dawson, Barry. Traditional buildings of India: Ilay Cooper, Barry Dawson, Thames & Hudson
2. Pandya, Yatin. Concepts of space in traditional Indian architecture, Mapin Publishing Pvt.Ltd
3. G. Satish, Buddhist and Hindu Architecture in India, CBS Publishers & Distributors Pvt.Ltd
4. Mitchell, George. Hindu art and architecture, Thames & Hudson
5. Shai, Surendra, Indian architecture Hindu, Buddhist and Jain, Prakash Books Pvt Ltd
6. Brown, Percy. Indian Architecture: Buddhist and Hindu periods, D. B. Taraporevala Publications
7. Murray, Peter and Murray, Linda. The oxford dictionary of Christian art and architecture, Oxford University Press; United Kingdom

8. Michell, George Architecture of the Islamic world, Thames & Hudson
9. Sharma, Praduman K. Indo-Islamic architecture (Delhi and Agra), Winsome books
10. Grover, Satish. Islamic architecture in India, CBS Publishers & Distributors Pvt. Ltd.
11. Desai, Madhavi. Traditional architecture: house form of the Islamic community of Bohras in Gujarat, Council of Architecture
12. Tipnis, Aishwarya Vernacular Traditions Contemporary Architecture, TERI The Energy and Resources Institute
13. Collins, Larry and Brown Percy. Traditional woodwork, Collins Business
14. Prakash, Vikramaditya. Chandigarh's Le Corbusier: The Struggle for Modernity in Postcolonial India, University of Washington Press
15. Indian canvas re-rendered documentation of INDO-SARACENIC architecture, (NIDC) NASA Information & Documentation Centre.
16. Fletcher Sir Banister. A history of architecture, CBS Publishers & Distributors Pvt. Ltd.
17. Morelli, Marcello. World's greatest royal palaces, Timeless Books
18. Raulet, Sylvie. Maharajas Palaces
19. Chavez, C., & Faulkner, A. (2022). Adobe Photoshop Classroom in a Book.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, will be set from the entire syllabus.
2. The examiner must set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).

MRSPTU

INTERIOR SERVICES - I (BDIDS1 - 319)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

To expose the students to the basic principles of water supply and sanitation.

2. COURSE OBJECTIVES

To provide students with essential knowledge of plumbing systems, including water supply, drainage, and sustainable practices, for effective integration into interior design and building services.

3. COURSE OUTCOME

- Understand the roles of various plumbing systems in different building types.
- Design and select appropriate piping materials for efficient water distribution.
- Develop skills in designing sanitary and drainage systems per building codes.
- Select and place plumbing fixtures and fittings to meet code and user requirements.
- Integrate sustainable plumbing solutions into building designs.

Unit- I (10 Hours)

Introduction to Plumbing Systems

- Overview of plumbing systems in residential, commercial, and industrial buildings
- Types of plumbing systems: Water supply, drainage, and gas systems
- Role of plumbing in interior design and building services
- Plumbing codes and regulations

Water Supply Systems

- Sources of water supply and water distribution systems
- Cold and hot water supply systems
- Piping materials and selection criteria (PVC, CPVC, PEX, copper, galvanized steel, etc.)
- Water pressure, flow rate, and sizing of pipes
- Water conservation techniques and sustainable plumbing practices

Unit- II (10 Hours)

Sanitary and Drainage Systems

- Wastewater collection and disposal systems
- Design of drainage and venting systems
- Sizing and layout of drains, soil pipes, and waste stacks
- Traps, cleanouts, and vent systems

Plumbing Fixtures and Fittings

- Selection and placement of plumbing fixtures (sinks, toilets, showers, bathtubs)
- Fixture requirements based on building codes and user needs
- Fittings and accessories: Faucets, valves, and controls

Unit- III (10 Hours)

Hot Water Systems

- Types of water heaters: Storage, tank less, solar
- Design and installation of hot water distribution systems
- Insulation of hot water pipes

Fire Protection and Plumbing

- Sprinkler systems and their integration with plumbing systems
- Standpipes and fire hydrants

Sustainable Plumbing Solutions

- Water-saving devices and systems (e.g., low-flow fixtures, greywater recycling)
- Rainwater harvesting and its integration into building design

RECOMMENDED BOOKS

1. Charanjit S Shah, Water supply and sanitary engineering, Galgotia Publishers
2. G.S. Birdie and J.S. Birdie, Water Supply and Sanitary Engineering, Dhanpat Rai Publishing Company (p) Ltd
3. Deolalikar, Plumbing Design and Practice, McGraw Hill Education
4. A Kamala & D L Kanth Rao, Environmental Engineering, Tata McGraw–Hill publishing Company Limited
5. National Building Code of India (NBC) 2016, Bureau of Indian Standards (BIS)

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, is to be set from the entire syllabus.
 2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).
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MRSPTU

INTERIOR LANDSCAPE **(BDIDS1 - 320)**

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To acquaint students with the uses and Importance of landscape design in architecture.

3. COURSE OUTCOME

- To help students understand the elements of landscape design and its application in architectural design solutions.
- To learn the basic palette of design outside the premise of the built envelope
- Identifying plant characteristics of various types of Trees, Shrubs, Cacti Bushes and Creepers
- Understanding Historical development, Design Principles, salient features & elements of various garden styles
- To understand the role of hardscape elements and assess their role individually
- To get an in-depth knowledge of plant life and the science behind their life

Unit- I (10 Hours)

LANDSCAPE AND BUILT ENVIRONMENT

Introduction and role of landscape design in the interiors. Natural elements include stones, rocks, pebbles, water forms, plants and vegetation. Introduction to the study of plants concerning landscape design and interiors. Types of indoor plants, visual characteristics: i.e., colour, texture, foliage.

VISUAL PERCEPTION

Flowers- their colours, texture, and visual perception in various indoor spaces. They are also part of the science of flower arrangement in indoor plants in an Indian context. Plant biology, soil, moisture, light nutrients, atmospheric conditions, growing medium, pests & diseases. Botanical terminology, anatomy and physiology of plant growth. Market survey and costs.

Unit – II (10 Hours)

SOFTSCAPE

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

HARDSCAPE

Design concepts related to using sculpture, lighting, garden furniture, and architectural features and grouping them into meaningful compositions for visual and functional effects.

Unit – III (10 Hours)

LANDSCAPE DESIGN PARAMETERS

Landscaping design parameters for various 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.

RECOMMENDED BOOKS

1. The water garden: Styles, designs, and visions, Thames & Hudson Ltd Publication
2. The small garden handbook, Abbeydale Press
3. Johnson,S.D.Alliene, Garden rooms, Pradeep publishers

4. Meredith Book, Better homes and gardens: basement planners: Inspiration Design, Meredith Book
5. Harris, Charles W and Dines, Nicholes T., Time saver standards for landscape architecture, Tata McGraw Hill Education Limited
6. Booth, Norman K., Residential landscape architecture, Prentice-Hall of India Private Limited
7. Blanc, Alan, Landscape construction and detailing, B.T. Batsford Ltd; London
8. Ortega, Daniel H and Anderson, Jonathon R., Innovations in Landscape Architecture, Routledge Taylor & Francis Group
9. Uje Lee, House on the landscape, Prakash Books Pvt Ltd
10. Ryan Tom, Detailing for landscape architects, John Wiley & Sons Inc
11. E.C. Martin, A photographic guide landscape in plant, Van Nostrand Reinhold Co
12. Morrow, BH, A dictionary of landscape architecture, University of New Mexico Press; Mexico

INSTRUCTIONS TO QUESTION PAPER SETTER

- One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, will be set from the entire syllabus.
- The examiner must set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).

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MRSPTU
4TH SEMESTER

INTERIOR DESIGN STUDIO – IV

(BDIDS1 - 421)

Uni. Exam. Marks : 60

Sessional Marks : 40

Duration: 90 Hours

(L-2, T-0, S-3, P-2, C=6)

1. COURSE PREREQUISITES

The student should know Design fundamentals and spatial organisation

2. COURSE OBJECTIVES

- To equip students with the skills to design functional, aesthetically pleasing, and sustainable interiors for small to medium-scale buildings.

● COURSE OUTCOME

- To apply space planning principles to create functional and user-friendly layouts for diverse small to medium-scale buildings.
- To develop and communicate design concepts integrating aesthetics, ergonomics, and user needs for various interior environments.
- Select appropriate materials, finishes, furniture, and lighting to achieve desired functionality and aesthetics in specific building types.
- Use practical visual communication tools (drawings, renderings, presentations) to present interior design proposals.
- To demonstrate an understanding of basic project management principles applicable to the interior design process for small to medium-scale projects.

CONTENTS

Project-I: Resort/ Farmhouse/ Luxury Villa/ Public Library

(45 Hours)

Project Brief:

Design the interior of a luxury eco-resort nestled amidst a natural landscape. The resort should cater to guests seeking a relaxing and rejuvenating experience in harmony with nature.

Design Considerations:

- Site analysis: Consider the surrounding natural environment and integrate it visually.
- Theme and Ambiance: Develop a design theme that reflects the resort's eco-friendly concept and creates a sense of tranquillity.
- Room types: Design various room layouts catering to guests' needs (individual travellers, couples, families).
- Public areas: Design inviting spaces like a lobby, lounge, restaurant, spa, and recreational areas.
- Sustainability: Emphasise sustainable design principles throughout the project, using eco-friendly materials, maximising natural light, and incorporating energy-efficient fixtures.

Deliverables:

- Detailed space planning layouts for all designated areas (lobby, public areas, different room types).
- Mood boards depicting the design aesthetic for each space.
- Furniture layout plans with specifications and elevations for custom-designed furniture.
- Material and finish samples for flooring, walls, ceilings, and furniture.
- Lighting design plan with fixture specifications.
- 3D renderings or detailed hand-drawn perspectives showcasing critical areas of the resort.
- Presentation boards or digital presentations effectively communicate the design proposal.

Project II: Community Centre/ Banquet Hall / Theme Restaurant/ Jewellery Showroom

Project Brief:

(45 Hours)

Design the interior of a new community centre in a developing area. The centre should cater to a diverse age group's needs, offering various activities and programs.

Design Considerations:

- Target audience: Consider the age range, demographics, and interests of the community members who will use the centre.
- Multi-functionality: Design flexible spaces that can accommodate a variety of activities like fitness classes, after-school programs, senior citizen meetings, and community events.
- Accessibility: Ensure the design is accessible to people with disabilities, following relevant building codes and guidelines.
- Sustainability: Consider incorporating sustainable materials, finishes, and lighting strategies.

Deliverables:

- Space planning layout with a clear designation of functional areas.
- Mood board depicting the overall design aesthetic.
- Furniture layout plan with specifications for key furniture pieces.
- Material and finish samples for flooring, walls, and ceilings.
- Basic lighting plan (optional).

Evaluation Criteria:

Both projects will be evaluated based on the following criteria:

- Understanding of the project brief and target audience.
- Creativity and functionality of the design concept.
- Effective space planning and circulation flow.
- Appropriate selection of materials, finishes, and furniture.
- Integration of sustainable design principles (major project).
- Quality of visual communication (drawings, renderings, presentations).

TEACHING METHODOLOGY

For all assignments, the following methodology should be followed, and all stages should be attempted individually.

1. Library and Proto-type Studies
2. Site analysis and site planning
3. Space planning
4. Design development and volumetric studies (model)
5. Preliminary design and volumetric study
6. Designs & details Electrical and Lighting Layout Plumbing Drawing HVAC co-ordination
7. Final design with detailed volumetric study (Detailed Model) and visual communications (3D Visualisations)

Note:

- As an interior design project, the faculty may select an existing campus or building. The primary focus will be on interior design aspects. Minor architectural changes can be considered to demonstrate an understanding of architectural principles.
- An industry expert will deliver a guest lecture on the subject matter.
- Field Visits/Workshops / Expert Sessions / Visits to Exhibition venues located within the Northern Region (India) shall be planned.

RECOMMENDED TEXT AND REFERENCE BOOKS

1. Dechiara,J. Time-saver standards for interior design and space planning, Tata McGraw Hill Education Limited
2. Chiara,Joseph De and Crosbie,Michael J. Time saver standards for building types, McGraw Hill Education(India) Private Limited
3. Barron,Michael, Auditorium acoustics and architectural design, Chapman & Hall
4. Yu,Wang. Hotel architecture, Artpower; Hong Kong
5. Alan,Phillips, The best in lobby design hotels & offices, Rotovision; New York
6. Daab, Airport design, Daab; London

7. Horonjeff, Robert and Mckelvey, Francis X. Planning and design of airports, Tata McGraw Hill Education Limited
8. Ham Roderick, Theatres planning guidance for design, Butterworth-Heinemann Ltd
9. Paul Lang V. Principles of Air Conditioning, CBS Publishers & Distributors Pvt. Ltd
10. John E Flynn; Jack A. Kremers and Arthur W. Segil, Architectural interior systems: Lighting, Acoustics, Air Conditioning, Van Nostrand Reinhold Co.
11. Khurmi, R.S and Gupta, J.K., A Textbook of Refrigeration and Air Conditioning, Eurasia Publication House Pvt Ltd.
12. Davies, Thomas R. Accessible Design for Hospitality, Tata McGraw Hill Education Limited

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question is to be set from the syllabus and cover the entire content.
 2. The total exam duration will be 12 hours, divided into four sessions, with lunch breaks following the first and third three-hour sessions.
 3. Evaluation is to be done through viva voce by an external jury consisting of two examiners appointed by the University at college, and answer sheets should be retained at the college level.
 4. The topic of the project is to be displayed on the College / Institute Notice Board ten days in advance.
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MRSPTU

FURNITURE DESIGN
(BDIDS1 - 422)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 45 Hours
(L-2, T-0, S-0, P-2, C=3)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

- To develop advanced furniture design skills through historical and contemporary exploration, material expertise, and human-centred design principles, culminating in innovative and functional furniture solutions.

3. COURSE OUTCOME

- To demonstrate a comprehensive understanding of furniture design history, theory, and contemporary trends.
- Mastering ergonomic principles, anthropometry, and materials science to furniture design.
- To develop proficiency in furniture design software, digital prototyping, and physical model-making techniques.
- To create innovative and functional furniture solutions that address specific user needs and contexts.
- To cultivate critical thinking and problem-solving skills for designing, producing, and marketing furniture products.

Unit- I (15 Hours)

Introduction to Furniture Design: Overview of furniture design, Historical evolution of furniture styles, Key designers and their contributions

Materials and Technologies: Types of materials used in furniture design (wood, metal, plastic, etc.), Properties and applications of different materials, Sustainable materials and practices, Introduction to furniture manufacturing technologies

Ergonomics and Human Factors: Principles of ergonomics, Designing for comfort and functionality, Anthropometric data and its application in furniture design

Unit- II (15 Hours)

Styles and Aesthetics: Exploration of various furniture styles (traditional, modern, contemporary, etc.), Influences of cultural and regional aesthetics, Combining form and function in design

Masterpiece by Architects: Pierre Jeanneret; Le Corbusier- LC4 Chaise Longue, LC2 Petit Confort Armchair; Frank Lloyd Wright- Barrel Chair, Robie House Dining Table and Chairs; Mies van der Rohe- Barcelona Chair, Brno Chair; Eero Saarinen- Womb Chair, Tulip Chair; Alvar Aalto- Paimio Chair, Stool 60

Masterpiece by Interior Designers: Florence Knoll- Knoll Sofa Collection, Knoll Lounge Chair; Philippe Starck- Louis Ghost Chair, Masters Chair; Charles and Ray Eames- Eames Lounge Chair and Ottoman, Eames Molded Plastic Chair; Arne Jacobsen- Egg Chair, Swan Chair; Marcel Breuer- Wassily Chair, Cesca Chair

Unit- III (15 Hours)

Design Methodology and Process: Design thinking in furniture design, Concept development and sketching, Prototyping and model-making, Design documentation and specification

Contemporary Trends and Innovations: Smart furniture and integrated technology, Modular and multifunctional furniture, Sustainable and eco-friendly design practices.

Note: Visits to museum/ exhibition venues located within the Northern Region (India) shall be planned.

RECOMMENDED BOOKS

1. Urban landscape furniture, Hi-Design International Publishing Co.Ltd.
2. Linley,David, Extraordinary furniture, Mitchell Beazley GratBtaiain
3. Children furniture, Atrium; New Delhi
4. Office Furniture, Atrium; New Delhi
5. Dormitories Bedrooms, Atrium; New Delhi
6. Dining Room, Atrium; New Delhi
7. Suresh,Dalela, Work study and ergonomics, Standard Publishing Distributors
8. Pellam,John L 100 Designers Favourite Rooms, Barons Whos Who; North America

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, is to be set from the entire syllabus.
 2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).
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MRSPTU

ENGLISH COMPOSITION AND COMMUNICATION (BDIDS1 - 423)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-1, T-0, S-0, P-2, C=2)

1. COURSE PREREQUISITES

Basic knowledge of English as a language up to 12th standard

2. COURSE OBJECTIVES

The objective is to help the students to become independent users of the English language. Students should be able to understand spoken and written English language of varied complexity, including some abstract topics, particularly for preparing reports. They must show awareness in the field and be able to explain their views rationally.

3. COURSE OUTCOME

- The students shall be able to converse fluently, without strain, with international speakers of English in an accent and lexis widely understood globally. They will be able to prepare reports and texts on their own and shall be able to communicate professionally.
- **Reading:** Reading texts of varied complexity; speed reading for global and detailed meaning; processing factual and implied meanings.
- **Vocabulary:** Building up and expansion of vocabulary; active use of vocabulary
- **Grammar:** Revising and practising a prescribed set of grammar items; using grammar actively while processing or producing language
- **Writing:** The qualities of good writing include learning the prescribed written expressions of conventional use, writing business letters and emails, architectural reports, summaries, and various forms of descriptive and argumentative essays related to buildings, as well as poetry and prose.

Unit- I (Reading) (10 Hours)

The students will go through the reading texts themselves with the help of a dictionary or word power as given at the end of the books. As they progress from one reading to another, they should learn to read fast and better understand concrete and abstract topics. While taking up the textbook lessons in the classroom, the teacher shall ensure that students can do the following:

- Identify the significant points and conclusions as given in the text.
- Handle significant texts (outside the prescribed book) with overall comprehension of the links between arguments and the finer distinction between stated and implied meanings.
- Generally, read the stance or the point of view of the writer and present it as a summary.
- Use the vocabulary learnt in the lessons (especially in “word power”) productively in various writing tasks as suggested at the end of each lesson.
- Profitably use the grammatical items discussed at the end of each lesson while producing language for communication.
- Besides the textbook, the teacher must insist that students extend their reading by taking up additional texts of their choice.

Unit – II (Writing) (10 Hours)

The students must learn the language that expresses various cognitive functions frequently used in writing. With the help of the teacher who will give them adequate practice, the students should be able to:

- Convey information on concrete or abstract topics with clarity and precision.
- Write about objects or events in descriptive and narrative form with appropriate detail.
- Explain ideas and build up arguments with adequate support in a convincing manner.
- Use language with some degree of flexibility in consideration of the reader.

- Produce effective forms of professional writing such as business letters, emails, notes, memos, reports, summaries, etc.
- While teaching, the teacher must inculcate in students the habit of revising their writing. The teacher can also use and recommend the relevant sections of the following books to develop students' writing skills.

Unit – III (Report Writing) (10 Hours)

The students must visit places of importance, such as buildings, gardens, monuments, etc., and prepare visit reports. The parameters to be considered for report writing shall be location, history, concept and key elements of design

- Basic understanding and vocabulary of Interior terms and features.
- Presentation of various site reports, case studies and methods of holding meetings.
- Preparation of press notes for interior reports and events.

RECOMMENDED BOOKS

1. Vandana R. Singh, 'The Written Word', Oxford University Press, New Delhi.
2. K.K. Ramchandran, et al., 'Business Communication', Macmillan, New Delhi.
3. Swati Samantaray, 'Business Communication and Communicative English', Sultan Chand, New Delhi.
4. S.P. Dhanavel, 'English and Communication Skills for Students of Science & Engineering.

INSTRUCTIONS TO THE PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, is to be set from the entire syllabus
 2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).
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INTERIOR SERVICES - II
(BDIDS1 - 424)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

To develop an understanding of advanced building services such as fire safety, HVAC, lifts, escalators, and building automation systems and their application in the Interior Design proposals of multi-storied buildings.

3. COURSE OUTCOME

- To understand the heating, ventilation and air conditioning systems
- To learn about the various firefighting systems and provision of fire systems in NBC
- To learn about the vertical transportation systems in multi-storied buildings
- To understand the various safety and security systems.
- To have a brief understanding of the various building management systems

Unit- I (10 Hours)

HVAC (Heating, Ventilation, and Air Conditioning)

- Basic principles of HVAC systems
- Types of HVAC systems (central, split, VRF, etc.)
- Load calculations and system sizing
- Ductwork and air distribution
- Indoor air quality and ventilation
- Integration of HVAC systems with interior design (diffuser placement, noise control, etc.).

VERTICAL TRANSPORT

- Types of elevators and escalators
- Elevator and escalator components and operation
- Safety features and regulations
- Elevator and escalator design considerations
- Integration of vertical transportation with interior design (lobby design, passenger flow).

Unit – II (10 Hours)

FIRE SAFETY

- Fire safety codes (NBC, etc.) and regulations
- Fire prevention and protection measures
- Fire detection and alarm systems
- Fire suppression systems (sprinklers, fire extinguishers)
- Emergency evacuation planning
- Interior design considerations for fire safety (materials, finishes, escape routes)

SAFETY AND SECURITY

- Security systems (CCTV, access control, alarms)
- Safety measures (emergency lighting, signage, first aid)
- Security and safety regulations
- Interior design for security and safety (surveillance, control rooms, safe zones)

Unit – III (10 Hours)

BUILDING AUTOMATION AND ENERGY MANAGEMENT

- Building automation system (BAS) components and functions
- Energy-efficient building design

- Energy-efficient building codes
- Lighting control systems
- HVAC control systems
- Energy monitoring and management
- Integration of BAS with interior design for energy optimisation

RECOMMENDED BOOKS

1. National Building Code of India (NBC) 2016, Bureau of Indian Standards (BIS)
2. Energy Conservation Building Code 2017, Bureau of Energy Efficiency, New Delhi.
3. Arora, S. C and Domkundwar, S. A Course in Refrigeration and Air Conditioning, Dhanpat Rai & Co.(Pvt.) Ltd.; New Delhi
4. Paul Lang V. Principles of Air Conditioning, CBS Publishers & Distributors Pvt.Ltd; New Delhi
5. Aulakh, G. S. Refrigeration and Air Conditioning, Eagles Prakashan Regd; Jalandhar
6. Khurmi, R. S and Gupta, J. K. A textbook of refrigeration and air conditioning, Eurasia Publication House Pvt. Ld.
7. Sinopoli, J. Smart Building Systems for Architects, Owners, and Builders. Elsevier Inc.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, is to be set from the entire syllabus.
2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).

MRSPTU

INTERIOR LIGHTING (BDIDS1 - 425)

Uni. Exam. Marks : 60
Sessional Marks : 40

Duration: 30 Hours
(L-2, T-0, S-0, P-0, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

This course explores the principles, techniques, and applications of lighting design in interior spaces. Students will learn about the impact of lighting on aesthetics, functionality, and occupant well-being.

3. COURSE OUTCOME

- Understand the fundamentals of light and human vision.
- Explore the different types of lighting and their applications in interior design.
- Develop skills in lighting calculations and the use of lighting software.
- Learn about energy-efficient and sustainable lighting solutions.
- Create lighting designs that enhance the functionality and aesthetics of interior spaces.

Unit-I (10 Hours)

BASICS OF INTERIOR LIGHTING:

Introduction to Interior Lighting- Importance of lighting in interior design, Basics of light and vision: Light properties, Human visual system

Light Sources and Fixtures- Types of light sources: natural and artificial, Characteristics of light sources: Incandescent, fluorescent, LED, etc. Types of lighting fixtures and their applications

Lighting Terminology and Metrics- Key terms: Lumen, Lux, Candela, Efficacy, etc. Understanding lighting metrics, Introduction to lighting calculations

Principles of Lighting Design- Layered lighting approach: ambient, task, accent, and decorative lighting, Principles of effective lighting design, Lighting for different room types and functions

Unit-II (10 Hours)

NATURAL AND ARTIFICIAL LIGHTING:

Natural Lighting- Importance of natural lighting in interiors, Techniques for maximising natural light, Daylighting strategies and their benefits, Solar geometry and shading devices

Artificial Lighting Design- Designing with artificial lighting, Choosing the right fixtures and placement, Lighting control systems and automation, Introduction to lighting design software

Energy Efficiency and Sustainability in Lighting- Energy-efficient lighting solutions, Sustainable lighting practices, Standards and certifications (e.g., BEE, LEED)

Elements of Lighting

Colour and Light- Understanding colour temperature and colour rendering, Impact of light on colour perception, Techniques for integrating colour and light in design

Unit-III (10 Hours)

LIGHTING APPLICATIONS:

Lighting for Special Environments- Lighting for commercial spaces, Lighting for healthcare and educational facilities, Residential lighting design considerations, Lighting for outdoor and landscape areas

Advanced Lighting Technologies- Smart lighting systems, Innovations in LED technology, Interactive and adaptive lighting, Future trends in lighting design

Lighting Design Project - Project briefing and objectives, Site analysis and client requirements, Lighting calculations and simulations, Selection of fixtures and materials

RECOMMENDED BOOKS

1. Schawen, Deidi von Taschen, Angelika and Sethi, Sunil. Indian Interiors, Taschen Publications
2. Taschen, Angelika. Indian interior, Taschen Publications
3. Steffy, Gary, Architectural lighting design, John Wiley & Sons, Inc
4. Lighting commercial cooling and repair handling, Platts Colorado E source Colorado
5. Cullen, John The lighting handbook
6. Pile J. Color in interior design, McGraw Hill; New York
7. K Ono; K Kato and S Kabayama, Introduction to colour and composition, Westland; New Delhi
8. Martha, Stewart, Decorating with colours: the best of Martha Stewart, Martha Stewart; London
9. Rochon, Richard and Linton, Harold, Colour in Architectural Illustration, Van Nostrand Reinhold Co
10. Karlen, M. (n.d.). Lighting Design Basics. JOHN WILEY & SONS, INC.

INSTRUCTIONS TO QUESTION PAPER SETTER

1. One compulsory question containing six questions of 2 marks (12 marks), each requiring short answers, is to be set from the entire syllabus.
2. The examiner is required to set another six questions (two from each unit), out of which the students are required to attempt any four questions (selecting at least one from each unit).

MRSPTU

PHYSICAL MODELLING AND VISUALISATION

(BDIDS1 - 426)

Uni. Exam. Marks : 60

Sessional Marks : 40

Duration: 30 Hours

(L-1, T-0, S-0, P-2, C=2)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

Teaching this subject shall help the students learn different materials and techniques used to present the work of interiors on a higher level.

3. COURSE OUTCOME

- To demonstrate Proficiency in Medium of Material
- To be able to create Scaled Models
- To apply photography Techniques
- To understand the integration of Visualization Tools
- To critically analyze and Present Designs

Unit- I (10 Hours)

MATERIAL REPRESENTATION

Understanding Material Selection: Exploring various materials used in interior visualisation, including their properties and visual impacts.

Techniques in Material Representation: Methods for effectively representing materials such as wood, glass, fabric, and metals through digital rendering and visualisation tools.

Unit- II (10 Hours)

SCALED MODELS

Importance of Scaled Models: Utilising scaled-down models to visualise spatial arrangements and design concepts before full-scale implementation.

Techniques for Creating Scaled Models: Hands-on approaches to constructing and presenting scaled models, incorporating principles of proportion, detail, and accuracy.

PHOTOGRAPHY

Photographic Principles and Techniques: Applying photography techniques to capture and enhance interior visualisations.

Lighting and Composition: Strategies for using lighting and composition to convey atmosphere, scale, and materiality in interior spaces.

Unit- III (10 Hours)

PORTFOLIO

Compilation of Visual Works: Curating and organising a collection of interior visualisations, emphasising diverse material mediums, scaled models, and photography techniques.

Presentation Techniques: Developing skills in presenting portfolios through digital platforms and physical formats, focusing on clarity, coherence, and visual impact.

RECOMMENDED BOOKS

1. Hilton,Jonathan and Watts, Barrie, A first guide photography, Pradeep publishers
2. Mills,Criss. Designing with Models: A Studio Guide to Architectural Process Models, John Wiley & Sons. Inc.; New Jersey
3. Werner,Megan., Model Making, Princeton Architectural Press

INSTRUCTIONS TO QUESTION PAPER SETTER

1. Assess the student's portfolio using two external methods: craftsmanship, creativity, technical proficiency, and the ability to articulate design concepts effectively.

EDUCATIONAL TOUR -I
(BDIDS1 - 427)

Uni. Exam. Marks : No Exam
Sessional Marks : 100

Duration: 15 Hours
(L-0, T-0, S-0, P-0, C=1)

1. COURSE PREREQUISITES

Nil

2. COURSE OBJECTIVES

The main aim is to explore study, analyse and understand the contemporary/ traditional/ historical architectural characteristics and details of areas and places relevant to the syllabi. The duration of the tour shall be up to 07 days.

3. COURSE OUTCOME

- To develop observational and documentation skills
- To enhance understanding of construction principles and interior design elements
- To foster critical thinking and problem-solving abilities
- To promote effective communication and teamwork
- To assess students' knowledge and comprehension of building materials, construction techniques, and interior design

GENERAL GUIDELINES FOR TEACHER

Study of building materials and details through sketches and photographs to be made as an individual student activity and is to be submitted in a report form. Study of concepts/ construction techniques and Interior characters for different sites/ buildings visited to be submitted in groups of students. As part of the internal assessment, the viva voce of individual students for both submissions will be conducted by the teacher in charge, who accompanied the tour.

NOTE: The evaluation shall be done on the work done by the students in the form of handmade sketches and a tour report.
