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[Est. 1857, State University, NAAC 'A⁺⁺' Grade, CGPA 3.59, NIRF 2019 Rank: 20] Website: www.unom.ac.in, Tel. 044-2539 9561

Postgraduate Programme in Home Science- Interior Design and Decor

Curriculum and Syllabus (With effect from the Academic Year 2023-24)

June 2023

Learning Outcome Based Curriculum Framework

Note: The Board of Studies is designed Learning Outcomes Based Curriculum Framework of Post Graduate Home Science Interior Design and Decor Programme prescribed by UGC

APPENDIX-4(R)

CHOICE BASED CREDIT SYSTEM M.Sc. DEGREE COURSE IN HOME SCIENCE - INTERIOR DESIGN AND DECOR REGULATION

(w.e.f. 2023-24)

VISION: To impart knowledge, stimulate creativity and develop competencies to become professionals in the Art and Design Industry.

MISSION: Enhance all round development of students and to give them practical and skillbased education to create space with beauty, expressiveness and functionalism.

1. CONDITION FOR ADMISSION:

Pass in B.Sc. Interior Design and Décor / B. Sc. Home Science or a graduate from any discipline.

2. ELIGIBILITY FOR THE AWARD OF DEGREE

A candidate shall be eligible for the degree only if she has undergone the prescribed course of study in a college affiliated to the university for a period of not less than two academic years, passed the examination of all the four semesters prescribed earning 91 credits.

3. DURATION OF THE COURSE

The course for the Degree of Master of Science in Interior Design & Décor shall consists of two academic years with four semesters.

4. EXAMINATION

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There shall be four examinations, the first semester examination at the middle of the first academic year and the second semester examination at the end of the first academic year. Similarly, the third and fourth semester examinations will be held at the middle and the end of the second academic year respectively.

5. PROGRAMME OBJECTIVE (POB)

The M.Sc. Program in Home Science– Interior Design & Décor aims to achieve the following objectives:

0	J
POB 1	Develop ability to apply design principles in day-today life and expose students
	to the various developments seen in art and design industries.
POB 2	Acquire the ability and behavioral skills required for successful social
	adaptation, that enables students to work in groups, apply knowledge and ideas
	effectively both verbally and in writing.
POB 3	Train students with appropriate skills required to adapt easily to the ever-
	changing global scenario and gain access to suitable career opportunities.
POB 4	Improve skills in observation and drawing logical inferences from space
	planning.
POB 5	Explore various mediums and technologies to express their creativity and
	understand the role of art making in the larger social context.

6. PROGRAMME OUTCOMES (PO)

On successful completion of M.Sc. Home Science Interior Design & Décor the student is expected to:

is expected	
PO1	Develop designs for both residential and commercial spaces by applying the concept of art and interior design with suitable building materials and which
	create sustainable environment.
PO2	Assess and analyze the art principles and colour theories that are most suitable
	and applicable to surface finishes.
PO3	Design and develop 2D and 3D floor plans, building system, kitchen and
	furniture arrangements using ergonomic principles.
PO4	Formulate hypotheses and thus find solutions for research problems.
	Cultivate professional skills to be inducted in the field of interior design and décor.
PO5	

7. PROGRAMME SPECIFIC OUTCOMES (PSO)

On successful completion of M.Sc., degree in Home Science – Interior Design & Décor the student is expected to:

	l
PSO1	Implement the concepts of design elements, art principles, color and lighting
	theories in planning interiors and exteriors with optimum use of resources in
	building services.
PSO2	Evaluate the characteristics of various hard and soft materials and finishes by
	planning residential and commercial spaces and in turn providing eco- friendly
	environment to meet the community needs.
PSO3	Analyze the various styles of interiors from historical period till modern days to
	create an aesthetic and ergonomic design in planning furniture, interior and
	exterior spaces.
PSO4	Implement the skills of communication, graphic design, various perspectives of
	home science and professional practice to develop new research ideas and meet
	the consumer requirements with effective use of resources.
PSO5	Demonstrate designs and plans effectively to the clients using various software,
	apps and technology and possess entrepreneurial skills and competencies.
PSO6	Develop research ideas in creating aesthetic and sustainable buildings with
	efficient use of renewable resources for that are eco-friendly.

COURSE COMPONENT	SUBJECT	INST HOURS	CREDITS
CORE - 1	427C1A: History of Design	7	5
CORE - 2	427C1B: Application of Art and Design	7 (5+2)*	5
CORE - 3	427C1C: Space Planning Practical	6	4
ELECTIVE-1 (Discipline Specific)	427E1A: Furniture Design	5	3
ELECTIVE-2 (Discipline Specific)	427E1B: Landscaping & Ornamental Gardening	5 (3+2)*	3
	Total	30	20

FIRST YEAR SEMESTER - I

* Integrated Practical Oriented Subject

SEMESTER - II

COURSE COMPONENT	SUBJECT	INST HOURS	CREDITS
CORE – 4	427C2A: Sustainability in Building Science	6	5
CORE – 5	427C2B: Textile Science	6	5
CORE – 6	427C2C: Furnishing in Interiors Practical	6	4
ELECTIVE-3 (Discipline Specific)	427E2A: Visual Merchandising	4	3
ELECTIVE-4 (Generic)	427E2B: Advanced Graphic Design	4 (3+1)*	3
SEC - 1	427S2A: Flower Arrangement	4 (3+1)*	2
	Total	30	22

* Integrated Practical Oriented Subject

SECOND YEAR

COURSE COMPONENT	SUBJECT	INST HOURS	CREDITS
Core – 7	527C3A: AUTOCAD in Interiors	6 (4+2)*	5
Core – 8	527C3B: Commercial Interiors	6 (4+2)*	5
Core – 9	527C3C: 3D Modelling in Design Practical	6	5
Core – 10	527C3D: Research Methodology and Statistics	6 (4+2)*	4
Elective-5 Generic	527E3A: Renewable Energy Resources	3	3
SEC-2	527S3A: Research Writing and Presentation	3	2
Internship	527S3B: Carried out in Summer Vacation at the end of I year – 30 Days	-	2
	Total	30	26

SEMESTER - III

* Integrated Practical-Oriented Subject

SEMESTER - IV

COURSE COMPONENT	SUBJECT	INST HOURS	CREDIT S
CORE - 11	527C4A: Resource Management	6	5
CORE - 12	527C4B: Ergonomics in Interiors	6	5
CORE - 13	527C4C: Project with viva voce	10	7
ELECTIVE-6 (Entrepreneurial Based)	527E4A: Professional Practice in Interiors (Industry / Entrepreneurship)	4	3
SEC-3 (Professional Competency Skills)527S4A: Foundation for Competitive Exam in Home Science		4	2
	527V4A: Extension Activity		1
	Total	30	23

TOTAL CREDITS: 91

Template for P.G., Programmes

Semester-I	Credit	Hour s	Semester-II	Credi t	Hour s	Semester-III	Credi t	Hou rs	Semester-IV	Credit	Hours
1.1. Core-1 History of Design	5	7	2.1. Core-4 Sustainability in Building Science	5	6	3.1. Core-7 AUTOCAD in Interiors	5	6	4.1. Core-11 Resource Manageme nt	5	6
1.2 Core-2 Application of Art and Design	5	7	2.2 Core-5 Textile Science	5	6	3.2 Core-8 Commercial Interiors	5	6	4.2 Core-12 Ergonomics in Interiors	5	6
1.3 Core – 3 Space Planning Practical	4	6	2.3 Core – 6 Furnishing in Interiors Practical	4	6	3.3 Core – 9 3D Modelling in Design Practical	5	6	4.3 Core 13 Project with viva voce	7	10
1.4 Discipline Centric Elective – 1 Furniture Design	3	5	2.4 Discipline Centric Elective – 3 Visual Merchandisin g	3	4	3.4 Core – 10 Research Methodolog y and Statistics	4	6	4.4 Elective - 6 Professiona 1 Practice in Interiors (Industry / Entrepreneur ship) 20% Theory 80% Practical	3	4
1.5 Generic Elective - 2: Landscapin g & Ornamental Gardening	3	5	2.5 Generic Elective - 4 Advanced Graphic Design	3	4	3.5 Generic Elective - 5 Renewable Energy Resources	3	3	4.5 SEC – 3 Professiona 1 Competenc y in Home Science	2	4
			2.6 SEC - 1 Flower Arrangement	2	4	3.6 SEC - 2 Research Writing and Presentation	2	3	4.6 Extension Activity	1	
						3.7 Internship/ Industrial Activity	2	-			
	20	30		22	30		26	30		23	30

Theory Papers: Internal Marks: 25	
Best two test marks out of three	10 Marks
Attendance	5 Marks
Seminar	5 Marks
Assignment	5 Marks
Practical Papers: Internal Marks: 40	
Attendance	5 Marks
Practical – best 2 out of 3	30 Marks
Record	5 Marks
Dissertation: 40	
First phase report	10 Marks
Second phase report	10 Marks
Final report	20 Marks
Break up details for attendance	
Below 60%	No Marks
60% to 75%	3 Marks
76% to 90%	4 Marks
91% to 100%	5 Marks

The following procedure is to be followed for internal marks:

9. **REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER:**

- i. Candidates shall register their names for the First Semester Examination after the admission in the PG Courses.
- ii. Candidates shall be permitted to proceed from the First Semester up to Final Semester irrespective of their failure in any of the Semester Examination subject to the condition that the candidates should register for all the arrears subjects of earlier semester along with current (subsequent) semester subjects.
- iii. Students should have a minimum of 75% of the days in the semester in each paper.
- iv. In case of candidate earning less than 50% of attendance in anyone of the Semesters due to any extraordinary circumstances such as medical grounds. Such candidates, who shall produce Medical Certificate certified by the Principal of the College, shall be permitted to proceed to the next semester and to complete the course of study. Such candidate shall have to repeat the missed semester by rejoining after completion of final semester of the course, after paying the fee for the break of study as prescribed by the University time to time.
- v. In respect of married students undergoing PG Course the minimum attendance condonation (theory/practical) shall be relaxed and be prescribed as 55% instead of 65%.

If they conceive during their academic career, medical certificate from the doctor attached to the Govt. Hospital (D.G.O) and fee prescribed for Rs 250/- therefore together with the attendance details shall be forward to the office to consider the condo nation of attendance mentioning the category.

- 65% 74% Permitted to appear for semester exam with condonation fee.
- 50% 60% Not eligible to attend the semester exam. But can proceed to the next year/next semester and they can take university examination by paying the prescribed condonation fee of Rs. 250/-
- Less than 50% Not eligible to attend the semester exam. Not permitted to proceed to the next semester; must repeat the semester by rejoining after obtaining prior permission from the university.

10. PASSING MINIMUM

- a. There shall be no passing minimum for internal.
- b. For external examination, passing minimum shall be 50% of the maximum marks prescribed for the paper.
- c. In the aggregate (external + internal) the passing minimum shall be 50% for each paper/practical/project/and viva voce.
- d. Grading shall be based on overall marks obtained (external + internal).

11. CLASSIFICATION OF SUCCESSFUL CANDIDATES

- Candidates who secured not less than 60% of aggregate marks (internal + external) in the whole examination shall be declared to have passed the examination in first class.
- All others successful candidates shall be declared to have passed in second class.
- Candidates who obtain 75% of marks in the aggregate (internal + external) shall be deemed to have passed the examination in first class with distinction, provided they pass all examination prescribed for the course in the first appearance.

12. GRADING SYSTEM

As followed in the other Post-graduate Degree Courses affiliated to this University.

13. RANKING

Candidates who pass all the examination prescribed for the course with the first appearance itself alone are eligible for ranking/distinction.

8

14. PATTERN OF QUESTION PAPER

PART - A (50 words): Answer 5 out of	5 Questions	5 x 2 = 10 marks
PART – B (200 words): Answer	4 out of 6 Questions	4 x 5 = 20 marks
PART – C (600 words): Answer 3 out of	of 5 Questions	$3 \ge 15 = 45 \text{ marks}$

15. SCOPE

The M.Sc. Interior Design program offers a broad and dynamic scope, equipping graduates with the skills and knowledge to thrive in various domains of the design industry. From residential and commercial interior design to sustainable and eco-friendly practices, this program opens doors to creating captivating spaces that cater to different needs and aesthetics. Graduates can pursue careers as interior designers, consultants, educators, or entrepreneurs, playing pivotal roles in shaping environments that are functional, aesthetically pleasing, and aligned with contemporary design trends and sustainability principles. This comprehensive program empowers individuals to contribute meaningfully to the ever-evolving world of interior design and its intersection with architecture, technology and human well-being. Interior designers have the potential to establish their own design enterprises, functioning as seasoned professionals. As they contemplate further academic pursuits, they can opt for doctoral studies, thus opening gates to advanced research and expertise.

A.C.S' 23

427C1A

: I

Year

Semester: I

CORE I: HISTORY OF DESIGN

Time/Hrs: Theory: 7 Hrs Credits: 4

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the history of art and architecture.
- 2. Analyze the historical styles of architecture.
- 3. Create styles and designs based on the materials and design used in different periods.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand the architectural features of prehistoric & Egyptian period	К2
CO2	Analyze the different European styles of architecture	K4
CO3	Interpret the colonial and oriental influence in interiors	K3
CO4	Compose modern architecture based on the Indian historical features	K6
CO5	Illustrate the modern and post-modern styles of interiors	K4
	nambar: K2 Understand: K3 Apply: K4 Applyze: K5 Evaluate: K6 C	

K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create

UNIT	CONTENT	HOURS
UNIT I	Prehistoric & Egyptian Interiors - Plan, Materials, Furniture Ornamentation & Accessories Used for Shelters in Stone Age – Cave paintings, Parts & Plan of Stonehenge & Egypt - symbolism, characteristic features of Obelisks, Pyramids, Egyptian paintings - Egyptian dance & battle of Nubia.	20
UNIT II	European Interiors - Categorization of Rooms, Furniture, Materials Used for Buildings in Greece & Rome- Orders, Parthenon, Pantheon & Colosseum, Medieval - Pantheon, Late Renaissance- St. Peter's Basilica, Laurentian Library, Baroque- St. peter's Basilica and Rococo Architecture - Ballroom in the Schaezlerpalais.	20

UNIT III	Oriental and Colonial interiors - Types of Materials used, Parts of the Building, Furniture and other Interior Aspects of Buildings in Japanese- wood, roofs, shoji & fusuma, Tatami, Engawa, Genkan, Nature inspired. Chinese- Lumber, Low Rise, Roof, Colours, Symmetrical Layouts, Hierarchical Layout, South Facing, Consistency, and Indian Colonial Architecture - Victorian Memorial Hall, Secretariat in Delhi, Madras High Court.	25
UNIT IV	Indian interiors - Historical Perspectives, Architectural Styles and Contemporary Trend in Furniture, Space Allocation, Local Material Usage and Furniture Used in Rajasthan - Amber Palace, Gujarat- Rajmahal at Mehsana, Chettinad - Karaikudi houses, Kerala - The Mattancherry Palace and Pondicherry - White town Architecture.	20
UNIT V	Modern & Post-Modern interiors- The Style Statements of Modern Periods - Art Nouveau- Casa Battlo, Art Deco- Chrysler Building, Eclecticism-Carson Mansion, High Tech - Lloyd's Building, Minimalism- Heydar Aliyev Center, Deconstructivism - Walt Disney Concert Hall.	20
	Total	105

REFERENCES

1. <u>Vedula VLN Murthy</u> (2020). ARCHITECTURE PRE-HISTORIC TO PRE-GOTHIC - WEST ASIA, MEDITERRANEAN AND EUROPE, Standard Publishers and Distributors Pvt Ltd 2. <u>R. Engelbach, Somers Clarke</u>(2014), Ancient Egyptian Construction and Architecture, Dover Publications Inc.

3. WimPauwels (2012), Contemporary Architecture & Interiors.

4. John Wiley & sons.Inc (2013), A history of interior design – 4th edn.

5. Robbie.G. Blakemore, (2005), History of Interior Design and Furniture. From AncientEgypt to Nineteenth – Century Europe, Wiley Publishers

6. John Potvin (2015), Oriental Interiors: Design, Identity & Space, Bloomsbury Academic Publishers

E-LEARNING RESOURCES

- Ø www.thoughtco.com/architecture-timeline-historic-periods-styles-175996
- Ø https://www.britannica.com/art/Egyptian-architecture
- Ø https://www.e-architect.com/european-architecture
- Ø http://www.thebangala.com/architecture
- Ø https://www.toki.tokyo/blogt/2020/4/8/eight-elements-of-japanese-architecture
- Ø https://www.chinahighlights.com/travelguide/architecture/

- Ø https://www.chinahighlights.com/travelguide/architecture/features.htm
- Ø https://www.houzz.in/magazine/what-is-kerala-architecture-stsetivw-vs~116858736

MAPPING OF COs WITH PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	М	М	S	S
CO2	S	Μ	Μ	S	S
CO3	S	М	М	S	S
CO4	S	М	М	S	S
CO5	S	М	М	S	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427C1B

CORE II: APPLICATION OF ART & DESIGN

Time/Hrs: Theory: 5 Hrs, Practical: 2 Hrs Credits: 5

Year : I Semester: I

LEARNING OBJECTIVES

To enable the students to

- 1. Use design elements and principles of art effectively in designing interiors and exteriors.
- 2. Analyze and use the appropriate color schemes and lighting fixtures for the interiors and exteriors.
- 3. Create and implement innovative ideas in developing interior accessories and flower arrangement styles.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	COSTATEMENT	K LEVEL
CO1	Understand and apply the art and design in interiors and exteriors.	K1, K2, K3
CO2	Create innovative flower arrangement styles and apply them in various occasions and needs.	K3, K6
CO3	Develop or schemes using color palette and suggesting them in various areas of interiors and exteriors.	K5, K6
CO4	Apply proper lighting for efficient lighting in interiors and exteriors.	K2, K3, K5
CO5	Understand and apply various accessories and pictures in selection and arrangement with relation to the background of interiors.	K2, K3, K6
K1 - F	Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate	e; K6 – Create

UNIT	CONTENT	HOURS
UNIT I	Design: Design - Definition, Concept, Requirements of Good Design, Types of Design - Structural and Decorative - Naturalistic, Conventional, Geometric, Abstract. Elements of Design - Line & its Type, Shape and Form, Texture, Direction, Space and Size, Color, Value. Principles of design - Proportion, Balance, Rhythm, Emphasis and Harmony. Application of Design in Interiors and Exterior Wall Finishes.	20
UNIT II	Flower Arrangement: Flower Arrangement - Definition, importance of flower arrangement, Styles of flower arrangement – Traditional, Oriental/Japanese styles - Ikebana, Moribana, Nagarie, Shikibana, Morimono, Rikka, Ukibana and Modern. Selection of	20

	containers based upon styles of arrangement. Flowers – Names, its colours, textures and its visual perception in various indoor spaces.	
UNIT III	 Colour: Colour Theory - Additive Colour, Subtractive Colour, Warm & Cool Colors. Developing colour schemes related to colour harmony – Achromatic, Accented, Analogous, Triad and Tetrad. Application of colour psychology and illusion in various areas of interiors and exteriors. 	15
UNIT IV	 Lighting: Lighting requirements - Definition and Importance of lighting. Ideal light requirements, Lighting Units - foot candle, candela, Lumen, Watt. Types of light bulb - Incandescent lamps, Compact fluorescent lamps (CFL), Halogen lamps, Metal halide Lamps, Light Emitting Diode (LED),. Types of lighting - General/Ambient lighting, Task/Spot lighting, Architectural lighting - valance, soffit, bracket, cone, recessed, cornice. Lighting fixtures: Movable and immovable fixtures. Principles of home lighting, Glare - types and causes of glare. Suggestions for improving daylight illumination. 	15
UNIT V	Accessories: Definition, Types of accessories, Selection and arrangement of accessories in various areas – living room, Dining room, bed room, study room with application of art principles and elements of design. Pictures – Concept, Selection of pictures, framing and mounting of pictures, Hanging law of margin in picture framing.	15
Practical	 Creating hand-made accessories using waste materials and pictures frames in different styles. Painting different rooms using colour psychology and illusion of colours. Applying design in interior and exterior wall. Market survey on recent trends in lighting and interior accessories. Draw lighting layout. Prepare catalogue for wall accessories and various designs. 	20
	Total	105

REFERENCES

- 1. Andal and Parimalam (2015), "A Textbook of Interior Decoration", Satish SerialPublishing House, ISBN-13: 978-8189304508
- 2. Frida Ramstedt, (2020), "The Interior Design Handbook", Particular Books, ISBN-13:978-0241438114
- 3. Gary Gordon (2015), "Interior Lighting for Designers", Wiley; 5th edition, ISBN-13: 978-0470114223
- 4. Grimley C and Mimi Love (2018), "The Interior Design Reference & specification Book", Rockport Publishers, ISBN-13: 978-1631593802.
- 5. Mark Karlen, Christina Spangler, et al (2017), "Lighting Design Basics", Wiley; 3rdedition, ISBN-13: 978-1119312277

- 6. Nikita Mittal (2021), "The Key of Interior Design (Illustration of Methods & Principles), STANDARD BOOK HOUSE; 1st edition, ISBN-13: 978-8194359753
- 7. Pratap Rao. M (2020), "Interior Design: Principles and Practice", Standard Publishers and Distributors Pvt Ltd, ISBN-13: 978-8180141560
- 8. Seetharaman. P (2019), "Interior Design and Decoration", CBS; 1st edition, ASIN: 8123911920, ISBN-13: 978-8123911922

E-LEARNING RESOURCES

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- Frankel Building Group (2021), "7 Elements of Interior Design", https://www.frankelbuildinggroup.com/resources/7-elements-of-interior-design/
- Prerna Makhija (2022), "The 7 Elements of Design and how to use them in yourhome interiors", https://www.beautifulhomes.com/home-decor-ideas/interior-elements-of-design-and-how-to-use-them-in-your-home-interiors.html
- Foyr (2020), "Importance of Accessories in Interior Design", https://foyr.com/learn/accessories-in-interior-design/
- Hamstech (2021), "Selection of Accessories in Interior Designing", https://www.hamstech.com/selection-of-accessories-in-interior-designing
- Shuani, "Interior Decoration Arrangement of Flowers", https://www.yourarticle library.com/home-management/interior-decoration-arrangement-of-flowers/47903

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	Μ	S	S
CO2	S	S	М	S	S
CO3	S	S	М	S	S
CO4	S	S	М	S	S
CO5	S	S	М	S	S

MAPPING OF COs WITH PSOs

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 5
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to Pos	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427C1C

Year: I

Semester: I

CORE III: SPACE PLANNING (Practical)

Time/Hrs: Practical: 6 Hrs Credits: 4

LEARNING OBJECTIVES

To enable the students to

- 1. Learn about the requirements in housing and design spaces accordingly.
- 2. Design commercial spaces suited to the needs.
- 3. Know the standard dimensions of furniture.

COURSE OUTCOME

On successful completion of the course the student will be able to

СО	CO STATEMENT	K LEVEL
	Understand the needs and requirements of planning different spaces in residences. Apply designs to suit the requirements, create residential layouts for different Square feet areas.	K2, K3, K6
CO2	Outline the features of art principles. Apply various art principles to furnish a room thereby creating a specific mood.	K2, K3, K6
CO3	Analyze the requirements for designing commercial spaces. Design interior spaces for various commercial places	K3, K4, K6
CO4	Apply ergonomics in the design of furniture. Design furniture as per ergonomic standards.	K2, K3, K6
CO5	Categorize built in furniture in accordance to use. Design built in furniture with complete details	K3, K4, K6
K1 - Reme	ember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Cr	reate

PRACTICALS

UNIT	CONTENT	HOURS
UNII		
UNIT I	House Plan : Designing a residential space by implementing the principles of planning spaces with aspect, prospect, grouping, privacy, roominess, circulation and flexibility. Types of house plan, planning for different Square foot areas.	20
UNIT II	Residential Interior Spaces : Interior space arrangement like living room, bedroom dining, study and kitchen to achieve different moods – formal, informal, traditional, exotic, romantic, masculine and feminine. Creation of boards.	15
UNIT III	Commercial Interior Spaces : Designing commercial interior spaces like cafe, beauty parlor, boutique, kids store, snack bar, kiosk and office layout.	20
UNIT IV	Furniture design : Measured drawings of freestanding furniture, Multi- purpose, Innovative furniture, Door, Window, - Chair, Sofa, Bed, Dining table, Workstation - plan, elevation and view drawn to scale.	15
UNIT V	Storage systems : Functional analysis of storage systems and thereby deriving types of built in cabinets needed for interior spaces – Wardrobe, Kitchen cabinets, Designer shelves, Vanity Mirror, Vanity Storage, Bookshelf, TV wall unit, display systems.	20
	Total	90

REFERENCES

- 1. Christine M. Piotrowski (2016), Designing Commercial Interiors, Wiley Publishers
- 2. James Orrom (2018), Chair Anatomy: Design and Construction, Thames and Hudson ublishers
- 3. Lulu Lytle & Mitchell Owens (2020), Rattan: A World of Elegance and Charm, Rizzoli Publishers
- 4. Mark Karlen & Rob Fleming (2016), Space Planning Basics, Wiley Publishers
- 5. Maureen Mitton & Courtney Nystuen (2016), Residential Interior Design: A Guide to Planning Spaces, Wiley Publishers

E-LEARNING RESOURCE

- Ø https://www.academia.edu/8258292/Space_Planning_Basics
- Ø http://www.aboutcivil.org/site-selection-for-residential-buildings.html
- Ø https://web.hettich.com/fileadmin/media/company/Das_Ideenbuch_2018_HHW_177 85_e n.pdf
- Ø https://catalogimages.wiley.com/images/db/pdf/9781118090787.excerpt.pdf
- Ø https://cdn2.hubspot.net/hubfs/3360471/RhinoInteriorsGroup_May2018/Docs/Rhino_ offi ceinteriordesign.pdf

MAPPING OF COs WITH PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	Μ	S	S	S
CO2	S	Μ	S	S	S
CO3	S	М	S	S	S
CO4	S	Μ	S	S	S
CO5	S	М	S	S	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427E1A

ELECTIVE I: FURNITURE DESIGN

Time/Hrs: Theory: 5 Hrs, Credits: 3 Year : I Semester: I

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the basic guidelines of furniture design.
- 2. Get familiar with the different types of materials used in designing furniture.
- 3. Learn the styles of popular furniture designers.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand the design details of a furniture	K1, K2
CO2	Analyze the designs of popular designers from Medieval to modern period	K1, K2, K4
CO3	Understand the features of various materials used in furniture design.	K2
CO4	Summarize the templates and proportions	K1, K2
CO5	Analyze the methods of cabinet construction and select the best suitable method for the given purpose on hand	K1, K4

UNIT	CONTENT	HOURS
UNIT I	 Introduction to furniture design Furniture- Meaning and importance, classification, factors influencing furniture decisions – family needs, preferences, availability, principles of design and financial limit. Residential furniture Types: Table, chair, sofa, cabinet, bed, wardrobe, dining table, wall unit. Application of Golden Ratio in furniture design. Art principles in furniture design. 	
UNIT II	Furniture stylesi.Traditional/classic style: a. Ethnic style. b. Contemporary style.ii.Types of furniture: a. Daily uses furniture b. Loose carpentryfurniture c. Fixed carpentry furniture. d. Multi-utility storage e. Open & closed storage.Importance of anthropometric and ergonomics.	15
UNIT III	MaterialsFamiliar furniture materials – Wood – teak, rose wood, walnut, cedar, mahogany, pine, birch, Sal and Plywood, Bamboo, Cane, Glass, Concrete, Metals, Plastics, and Leathers.Modern materials – wood based panels such as plywood, MDF, HDF, Particle board , pre laminated boards; fiber glass, veneers	15
UNIT IV	Construction of Cabinets Steps involved in cabinet construction, T V units, wall accessories unit & Bedding furniture. Construction features of furniture – shaping, carving, turning, fluting, reeding, joining and finishes. Upholstering designs.	15
UNIT V	 Carpentry joint Finishes- Shaping, carving, tapestry, turning, fluting, reeding, joining and finishes joining of furniture. Types of joints i. Butt joint ii. Mitre joint iii. Lap joint iv. Mortise and Tenon joint v. Tongue and groove joint vi. Housed joint vii. Cross joint Joints used in furniture - Joints used in doors/ windows/ ventilators. 	15
	Total	75

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- 2. Jeannie Ireland (2009), History of Interior Design, air child publications, illustrated ed.,
- 3. Jim Postell, (2007), Furniture Design, Wiley publishers.
- 4. John Wiley & sons (2013), A history of interior design 4th edn Inc
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- 6. Postel Jim (2012), Furniture Design, New York

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- Ø https://koalaliving.com.au/blog/golden-ratio-design-template

MAPPING OF COs WITH PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	М	S	М	S
CO2	S	М	S	М	S
CO3	S	М	S	М	S
CO4	S	М	S	W	S
CO5	S	М	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO	PSO	PSO	PSO	PSO 5	PSO 6
	1	2	3	4		
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded						
of) of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427E1B

ELECTIVE II: LANDSCAPING & ORNAMENTAL GARDENING

Time/Hrs: Theory: 3Hrs, Practical: 2Hrs Credits: 3

Year : I Semester: I

LEARNING OBJECTIVES

To enable the students to

- 1. Acquire skill in identifying the ornamental flowers, shrubs and trees.
- 2. Develop a conceptual understanding of landscape design principles and gardening components for various built forms.
- 3. Create designs in integrating landscape and ornamental gardening with built environment.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Apply principles of design to create best suited design in lawn making and landscaping	K2, K3, K6
CO2	Evaluate the integral and supplementary elements to create ornamental garden design	K5, K6
CO3	Assess, understand and evaluate the different styles and kinds of garden.	K2, K5
CO4	Create designs in urban landscape and prepare bio- aesthetic plans for different areas.	K3, K6
CO5	Classify different kinds of indoor and outdoor plants; analyze factors for developing patterns in the landscape area.	K2, K4, K6

UNIT	CONTENT	HOURS
UNIT I	Landscaping –Definition, Importance and Principles of Design in Landscaping. Requirements in Landscape Area- Site & Location, Site Evaluation, Soil Properties, Water Systems, Climatic Conditions and Lighting. Lawn and Lawn Maintenance-Planning and Execution of Lawn Making, Public and Private Garden. Importance of Kitchen Garden.	10
UNIT II	Ornamental Gardening -Definition, Components of Garden- Arboretum. Shrubbery, Fernery, Arches and Pergolas, Edges and Hedges. Integral Elements of Garden- Climbers and Creepers, Cacti & Succulents, Herbs, Annuals & Perennials, Flower Borders & Beds. Supplementary Elements of Garden- Ground Covers, Carpet Beds, Bamboo Grooves, Topiary and Garden Adornments. Planning and Designing of Ornamental Gardens.	15
UNIT III	Styles and Types of Landscape Garden : Garden Styles: Formal, Informal and Freestyle, Wild Gardening, Types of Gardens: Persian, Mughal, Japanese, English, Italian, Buddha, Spanish and Vanams. Special Types of Gardens: Vertical Garden, Roof Garden, Bog Garden, Sunken Garden, Rock Garden, Clock Garden, Bonsai Gardens, Temple Garden & Sacred Groves.	20
UNIT IV	Urban Landscaping: Landscape Design for Specific Areas & Occasions- Industries, Institutions, Hospitals, Roadsides, Residents, IT Parks, Restaurants, And Corporate Offices. Bio Aesthetic Planning- Eco Tourism, Botanical Gardens, Theme Parks, Indoor Gardening, Terrarium, Hydroponic Gardens, Therapeutic Gardening, Non -Plant Components, Waterscaping, Xeriscaping and Hardscaping.	20
UNIT V	Indoor-Outdoor Plants -Kinds and Classification, Factors Influencing Growth of Plants. Planning and Execution of Landscape Design Based on the Styles and Kinds of Plants.	10
	 PRACTICALS 1. Selection of ornamental plants, practices in preparing home garden designs/ Industrial garden / Institutional gardens/corporate. 2. Avenue planting, lawn making, planting herbaceous and shrubbery borders, projectpreparation on landscaping for different situations, 3. Visit to parks and botanical gardens. 4. Draw 2D and 3D landscape design. 	75

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- A K Tiwari (2012) Fundamentals of Ornamentals Horticulture and Landscape Gardening, 1. NIPA publisher
- Alka singh (2015) A colour handbook: Landscape gardening, NIPA publisher 2.
- Desh raj (2017) Floriculture at a glance, Kalyani publishers 3.
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- http://agritech.tnau.ac.in/horticulture/horti_Landscaping_freshflower.html Ø
- https://www.basicsofgardening.com/types-of-garden Ø
- https://www.designcad.com.au/wp/Docs/Landscape%20Design%20and%20CAD.pdf Ø

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	S	S	S	S
CO3	S	S	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	S

Mapping with Programme Specific Outcomes

PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
15	15	15	15	15	15
3	3	3	3	3	3
	3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

Strong 3 Medium 2 Low I

427C2A

CORE IV: SUSTAINABILITY IN BUILDING SCIENCE

Time/Hrs: Theory: 6 Hrs Credits: 5 Year: I Semester: II

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the importance of sustainability in the built environment.
- 2. Analyze the features of various materials that can be used to attain sustainability in buildings.
- 3. Get familiar with energy conservation and rating systems in buildings.

COURSE OUTCOME

On successful completion of the course the student will be able to

СО	CO STATEMENT	K LEVEL			
CO1	Analyse the role of sustainability in human health & environment.	K1, K4			
CO2	Identify the materials that can reduce energy consumption in buildings.	K2			
CO3	Discuss various construction strategies in buildings for sustainability.	K1, K2			
CO4	Analyse the ways of conserving water in the built environment.	K4			
CO5	Examine the ways of implementing energy conservation in buildings.	K4,K6			
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					

UNIT	CONTENT	HOURS
UNIT I	Concept of Sustainability Sustainable building technology – Meaning, need for developing sustainable building concept in India, Importance of sustainable building technology, benefits of green buildings – environmental benefits, economic benefits, social benefits, Disadvantages of green buildings. Impact of sustainable building on human health and the natural environment.	15
UNIT II	Eco friendly building materials & Finishes Environmental impact study of building materials and finishes about composition, production, recycling and physical properties. Benefits of materials & finishes – Bamboo, straw bale, steel, wood, dimension stone, recycled plastic, Recycled stone, non-toxic metals, fly ash bricks, precast concrete slabs, Earth blocks-compressed, rammed earth and baked; flax linen, sisal, wood fibers, cork, coconut, non- VOC paints and polyurethane block, gypsum, cork, hempcrete, ferrock & timbercrete.	25
UNIT III	Sustainable Construction techniques Daylighting Passive heating methods: Direct solar gain, thermal mass, massing and orientation, trombe wall construction Passive cooling methods: Natural ventilation – single sided, cross ventilation, stack effect; cooling tower, earth air tunnels, shading devices, courtyard effect, evaporative cooling and insulation. Cool roofs and roof ponds.	20
UNIT IV	 Water conservation Water conservation technology – need for water conservation, Difference between water conservation and water efficiency, Strategies to save water at home. Rain water harvesting- meaning, importance of rain water harvesting, requirements of rain water harvesting structure, methods of rainwater harvesting systems – surface runoff and Roof top rainwater harvesting, advantages, Grey water usage. 	

UNIT V	Energy conservation & rating systems Building regulations-norms and standards, zoning, housing for special groups and areas, housing finance. Housing and environment - building materials - impact on environment, green rating systems - ECBC, NBC, GRIHA, IGBC, BEE energy efficiency in buildings, energy auditing, indices of indoor comfort.	15
	Total	90

REFERENCES

- J. Paul Guyer (2015), An Introduction to Water Conservation for Buildings, Createspace Independent Pub
- Kathryn Rogers Merlino (2020), Building Reuse: Sustainability, Preservation, and the Value of Design (Sustainable Design Solutions from the Pacific Northwest), University ofWashington Press
- Liliane Wong (2016), Adaptive Reuse: Extending the Lives of Buildings, Birkhäuser Publishers
- 4. Lori Dennis (2021), Green Interior Design: The Guide to Sustainable High Style, AllworthPublishers
- Umberto Desideri & Francesco Asdrubali (2018), Handbook of Energy Efficiency in Buildings: A Life Cycle Approach, Butterworth-Heinemann Publishers

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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	М	S	М	S
CO2	S	М	S	М	S
CO3	S	М	S	М	S
CO4	S	М	S	М	S
CO5	S	М	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427C2B

Year: I

Semester: II

CORE V: TEXTILE SCIENCE

Time/Hrs: Theory: 6 Hrs Credits: 5

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the processes of manufacture of textile fibers and yarns.
- 2. Become familiar with the types of yarns, their properties and usage.
- 3. Acquire a broad awareness of textile uses in home furnishings.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEI
CO1	Recall the basic concepts of classification and properties of textile fibers and describe the method of manufacture.	K1, K2
CO2	Classify the various types of yarn and summarize the steps of yarn manufacture.	K2
CO3	Illustrate the parts of a loom and weaving mechanism and categorize the different types of weaves.	K2, K4
CO4	Analyze the concepts of dyeing, printing and finishing and compile them according to their application, manufacture and their utility.	K5, K6
CO5	Evaluate the impact of ecofriendly dyes and sustainable textiles on the environment.	K5

UNIT	CONTENT	HOURS
UNIT I	Fiber Study Classification of textile fibers - natural and man-made fibers. Essential properties of textile fibers - primary and secondary properties. Manufacturing process and uses of natural fibers - cotton, jute, silk and wool. Manufacturing process and uses of synthetic fibers – polyester, rayon and nylon.	15
UNIT II	Yarn StudyDefinition of yarn, Steps involved in the processing of yarn.Classification of yarns:Based on length - Staple and Filament Yarns,Based on number of parts in a yarn - Simple yarns (simple, ply anddoubled, cable) and Novelty yarns (slub, flake, spiral, ratine, boucle, knotand chenille)Based on Twist - S twist and Z twist	20
UNIT III	Weaving Definition of Warp and Weft. Parts of a loom. Basic weaving operations.Basic fabric weaves - Plain, Twill, Satin. Fancy Weaves - Jacquard, Leno, Double Cloth, Lappet, Swivel, Spot and Pile.	15
UNIT IV	 Dyeing, Printing and Finishing a) The definition of dyeing, difference between dyeing and printing. Classification of Dye - Natural and Synthetic. Methods of dyeing - Stock, Top, Yarn and Piece dyeing. b) Styles of printing - Direct - Block, Roller and Duplex printing, Discharge - Blotch, Photo and Resist printing - Tie and dye, Batik, Stencil and Screenprinting. c)Definition of finishes, classification of finishes, types of finishes - scouring, bleaching, tentering, calendaring, sizing, mercerizing, napping and sanforizing. 	25
UNIT V	 Textiles and the Environment a) Ecofriendly Dyes: Natural Dyes – Vegetable, Herbal, Fruit based and Mineral. Advantages of natural dye over synthetic dye. b) Sustainable Textiles: Description and Applications of Organic Cotton, Lyocell, Tencel, Spandex, Bamboo and Carbon Fibers. c) Growth and applications of Nano textiles. 	15
	Total	90

REFERENCES

1. <u>William S Murphy</u> (2021), "The Textile Industries: a Practical Guide to Fibres, Yarns & Fabrics in Every Branch of Textile Manufacture, Including Preparation of Fibres, Printing, Dyeing and Finishing; vol. 5", Legare Street Press Publishers".

2. Pizzuto's,J.J (2010), "Fabric Science", 9th Edition, Fairchild Books, U.S.A.

3. Dantyagi. S (2020), "Fundamentals of Textiles and their Care", V edition, Orient Longman, India.

4. Horrock AR and S. C. Anand (2015)" Handbook of technical textiles", The Textiles Institute, Wood Head Publishing Ltd, England.

5. <u>Dr. Deepali Rastogi Dr. Chanchal Dr. Sheetal Chopra Dr. Chitra Arora</u> (2016). Textile Science A Practical Manual, Elite Publishing

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- \emptyset textilelearner.blogspot.com/2012/03/carbon-fiber-characteristicsproperties.html
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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	W	Μ
CO2	М	S	S	W	Μ
CO3	Μ	S	S	W	Μ
CO4	М	S	S	W	S
CO5	S	S	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427C2C

CORE VI: FURNISHINGS IN INTERIORS (Practical)

Time/Hrs: Practical: 6 Hrs Credits: 4 Year: I Semester: II

LEARNING OBJECTIVES

To enable the students to

- 1. Learn the importance of furnishings in interiors.
- 2. Identify various types of furnishings, criteria for their selection and care.
- 3. Acquire awareness on the use of textiles in home furnishings.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL					
CO1	Recall the basic stitches and demonstrate the application of seams and fullness.	K1, K2, K3					
CO2	Extend and apply the concepts of seams and fullness in different types of curtains and draperies.	K1, K2, K3					
CO3	Understand the design and choose suitable methods of repair for soft floor coverings.	K2, K3					
CO4	Categorize bedding and seating furnishings and design them aesthetically.	K2, K6					
CO5	Compile various accessory furnishings and select suitable textile embellishments.	K2, K5					
K1 - I	K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						

UNIT	CONTENT	HOURS
UNIT I	 Introduction to Stitching a. Basic Seams: Plain, Top stitched Seam, Lappet Seam. b. Seam Finishes: Pinked, Overcast, Herringbone, and Edge Stitched Seam. c. Introduction to Fullness Pleats - Box, Inverted and Pinch pleats Gathers - Gathering by Hand and Machine. Prepare an album of samples of seams, seam finishes and fullness. 	15
UNIT II	 Window Treatments a. Types of Curtains: Tie-Backs, Café, Casement, Criss-cross, Tier and Sheer Curtains. b. Types of Draperies: Panel, Valence, Cornice, Swags and Cascades. Application of suitable seams and fullness to construct any two types of curtains and any two types of draperies. 	15
UNIT III	 Soft floor Coverings a. Carpets and Rugs, Accent and Spot Rugs. Rugs based on shapes and sizes. b. Carpets based on construction - Woven and Non-woven. Repair of Carpets and Rugs - Darning, Appliqué and Patchwork. 	20
UNIT IV	 Bedding and Seating Furnishings a. Bed linens, Pillow covers, Quilts, Cushion covers b. Construction of Pillow Cover, Cushion Cover and Bolster i) Basic Hand Embroidery Stitches: Outline stitches: Running, Back. Stem Looped Stitches: Chain, Blanket, Feather Knot Stitches: Bullion, French Flat Stitches: Satin, Long and Short ii) Traditional Embroidery: Chikankari of Lucknow, Kanta of Bengal, Phulkari of Punjab, Kasuti of Karnataka and Kashida of Kashmir Application of Basic hand Embroidery stitches on pillow covers. Application of any one Traditional Embroidery on cushion covers or bolsters, tablecloth, bedspread. 	25
UNIT V	Accessory Furnishings a. Wall hangings, tablecloths, table runners, throw blankets, lamp covers, vases, tapestries and accent furniture. Visit Home Furnishing Centres.	15
	Total	90

REFERENCES

- 1. "Soft Furnishings Room by Room" (2000), Eaglemoss Publications Limited, UnitedStates.
- 2. Mathews, M. (2005), "Practical Clothing Construction Part I & II", Cosmic Press, Chennai.
- 3. Mehta,R.J (2010), "Masterpieces of Indian Textiles", B.B Taraporewala & Sons Pvt.Ltd, India.
- 4. Philips. B., (2000), "Hamlyn Book of Decorating", Octopus Publishing Ltd., London.
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- 6. Wilhide, E and Copestick, I., (2000), Contemporary Decorating, Conron OctopusLtd., London

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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	W	М
CO2	М	S	S	W	М
CO3	М	S	S	W	М
CO4	М	S	S	W	S
CO5	М	S	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

427E2A

ELECTIVE III: VISUAL MERCHANDISING

Time/Hrs: Theory: 4 Hrs Credits: 3 Year: II Semester: III

LEARNING OBJECTIVES

To enable the students to

Understand the concept of Visual Merchandising.
 Analyse the display merchandising techniques used.
 Analyse current trends and forecast future trends in merchandising.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand Visual merchandising and retailing.	K2
CO2	Analyse the different types of display.	K4
CO3	Summarize the display merchandising techniques and apply the same in interiors and exteriors.	K2, K3
CO4	Categorize Merchandise presentation.	K2, K4
CO5	Propose and forecast trend.	K5
K1 -	Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Ev	valuate; K6 – Create

UNIT	CONTENT	HOURS
UNIT I	Fundamentals of Visual Merchandising - Visual Merchandising - Introduction, functions, components Techniques, Store interiors & exteriors - store signs, façade, banners, planters, signage and awnings. Product display –hierarchy of product display, Exhibition spaces – display for exhibition.	

UNIT II	Window display- Types of display- Window Display—Meaning and Scope, Vis-à-vis Merchandise, Types of Setting, Promotional Display Vs. Institutional Display, Window Display—Construction. Art principles in arrangement of display.	15
UNIT III	Display Merchandising - Basics of Display, Design Basics, Principles of Design, Elements, Signage, Understanding Materials, the Purpose of Planning Fixtures, Types of Fixtures. Colour Blocking & Colour Psychology - Interiors & Exteriors	10
UNIT IV	Merchandise Presentation - Meaning, Principles of Merchandise Presentation, Categories in Merchandise Presentation, Dominance Factor in Merchandise Presentation, Cross Merchandising.	10
UNIT V	Trend analysis & Forecasting - Styling, Display Calendar, Sales Tracking, Handling the Props, Lighting, Organizing an In-store Event, Quality and Process in Visual Merchandising, Standard Operating Procedures (SOPs).	10
	Total	60

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- 1. Tony Morgan (2021), Visual Merchandising. Window displays and In-store Experience, 4th edition. Laurence king publication. London
- 2. Levy, Michale & Barton A. Weitz (2009). Retailing Management. Tata Mc Graw Hill.
- 3. Ebster Clause, Garaus Marion (2015), Store Design and Visual Merchandising, Second Edition, Business Expert Press
- 4. Morgan Tony (2010), Window Display: New Visual Merchandising, Laurence King Publishing
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- 6. Pradhan Swapana (2009). Retailing Management. Tata Mc Graw Hill.
- 7. Swati Bhalla and Anurag S (2010). Visual Merchandising. Tata Mc Graw Hill.

E-LEARNING RESOURCES

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- Ø www.managementstudyguide.com/visual-merchandising.html
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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	М	S
CO2	S	S	S	М	S
CO3	S	S	S	М	S
CO4	S	S	S	М	S
CO5	S	S	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

427E2B

ELECTIVE IV: ADVANCED GRAPHIC DESIGN

Time/Hrs: Theory: 3 Hrs, Practical: 1 Hrs Credits: 3 Year : I Semester: II

LEARNING OBJECTIVES

To enable the students to

- 1. Acquire basic knowledge of drawing and sketching exercises.
- 2. Know and effectively use photography, calligraphy and typography in developing logosand poster designs.
- 3. Explore various social media and digital apps used in promoting brand names.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
	Understand the concept of drawing and sketching and know the	
CO1	basic material and mediums used for sketching.	K2, K3
CO2	Create Logos and posters using graphic design.	K3, K6
CO3	Apply calligraphy and typography in developing graphic design.	K3, K6
CO4	Choose social media for brand promotion.	K2
CO5	Visualize interior design themes through digital apps.	K5, K6

THEORY

UNIT	CONTENT	HOURS
UNIT I	Drawing & sketching – Meaning and concept, Materials - Different sketching techniques and drawing mediums - Pencil and its types, Charcoal, Pastels, types of Paints. Usage of different points of pencils, handling of pencils. Drawing sheets and its sizes.	10
UNIT II	Graphic Design - Introduction, Types - Booklets, Brochures, Posters. Roles and responsibilities of graphic designer. Logo Design - Definition and its importance, Types of Logos, Guidelines for creating logos.	10
UNIT III	Photography - Definition, Importance of photography in Graphic Design, Effective Ways of using Photography in graphic design. Calligraphy - Definition, Styles of calligraphy, Equipment used in calligraphy. Typography - Definition, Styles of fonts - Formal, Informal, Creative lettering.	10
UNIT IV	Branding - Concept, Importance of branding, Selection of Brand elements, Methods of Branding, Choosing social media for brand promotion. Packaging for products.	10
UNIT V	Visualization - Visualizing interior design themes and implementing them through digital apps. Ideation, Mood board - types - Digital and physical, Components of mood board.	10
	Practicals: Pencil exercises Creation of logos, poster making. Calligraphy and typography. Designing Web page and creating designs using digital apps. Creating mood boards, Swatch boards.	10
	Total	60

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- 1. George Hlavacs (2022), "The Exceptionally Simple Theory of sketching", BIS; Expanded edition, ISBN-13: 978-9063696405
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- 3. Jorge Paricio Garcia (2019), "Hybrid Drawing Techniques for Interior Design", Routledge;1st edition, ISBN-13: 978-1138280663
- 4. Koos Eissen and Roselien Steur (2019), "Sketching: the basics", BIS; Illustrated edition, ISBN-13: 978-9063695347
- 5. Robert Philip Gordon (2016), "Integrated Drawing Techniques: Designing interiors with Hand Sketching", Fairchild Books, ISBN-13: 978-1628923353
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E-LEARNING RESOURCES

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- Ø https://www.cowlingandwilcox.com/blog/2020/05/28/a-guide-to-pencil-sketchingtechniques/
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- Ø Arek, (2022), "10 ways to Use Photography in Graphic Design", https://www.ebaqdesign.com/blog/graphic-design-photography
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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	W	S
CO2	S	S	S	W	S
CO3	S	S	S	S	S
CO4	S	S	S	W	S
CO5	S	S	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO	PSO	PSO	PSO	PSO 5	PSO 6
	1	2	3	4		
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

427S2A

SEC I - FLOWER ARRANGEMENT

Time/Hrs: Theory: 3 Hrs, Practical: 1 Hr Credits: 2 Year : I Semester: II

LEARNING OBJECTIVES

To enable the students to

- 1. Apply the design elements & principles in flower arrangement.
- 2. Gain an understanding on the importance of indoor plants.
- 3. Acquire knowledge on the setting of flower shops.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Identify floral arrangements based on principles and elements of design	K1, K2
CO2	Classify flowering and ornamental plants.	K1, K2
CO3	Follow the steps in storing and handling of flowers to retain freshness	К3
CO4	Make different types of floral arrangements.	K3, K6
CO5	Explore possibilities of a career in the retail flower business	K5

THEORY

UNIT	CONTENT	HOURS
UNIT I	Introduction – Concept, Traditional Styles of floral design. Design Elements, floral design requirements flowers and containers, stem holders, floral foam, wire mesh, sand and clay.	10
UNIT II	Flower arrangement – importance, steps, basic principles, basic shapes, types and styles. Ikebana - history, materials required, general rules and basic styles of Ikebana.	
UNIT III	Dry arrangement – preservation of plant materials-foliage and flowers, prolonging the vase life of flowers, garland and other floral ornament-flower carpet, floral bouquets, buttonholes.	10
UNIT IV	Flower Selection and Preparation - Factors to consider when selecting flowers, Techniques for conditioning and preserving flowers, Care and handling of different flower types, Designing flower arrangements for special events and Cultural Occasions.	10
UNIT V	Types of flower shops - Job opportunities in the retail flower shop, pricing strategies Selling in the shop – characteristics and delivering system. Displays in the shop – purpose, categories of display – theme and product displays; designing display arrangement.	10
	PRACTICAL Sketching flower arrangements styles and shapes. Developing innovative flower arrangement styles for special events and Cultural Occasions.	10
	TOTAL	60

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- 1. Bose et al, (2011). Floriculture and Landscaping. Calcutta: Allied Publishers, India.
- 2. Randhawa, G.S. and Mukhopadhyay, A, (2000). Floriculture in India. Chennai: Allied Publishers Limited, India.
- 3. Larson, A, (2013), Introduction to floriculture, New York: Academic Press Publishers, London.
- 4. Singh,A.K and Sisodia, A, (2017), Textbook of Floriculture and Landscaping, New Delhi:
- 5. New India Publishing Agency, India.

- 6. Griner, C, (2011), Floriculture Designing and Merchandising, New Delhi: Oxford & amp; IBH Publishing Company, India.
- 7. Kumar, N, (2010) Introduction to Horticulture, Nagarkoil: Rajalakshmi Publications, India.

E - LEARNING RESOURCES

- 0 http://www.megagriculture.gov.in/PUBLIC/floriculture_objectives.aspx
- Ø http://ncert.nic.in/vocational/pdf/kegr101.pdf
- 0 http://agritech.tnau.ac.in/horticulture/horti_Landscaping_freshflower.html
- Ø https://www.basicsofgardening.com/types-of-garden
- 0 https://www.designcad.com.au/wp/Docs/Landscape%20Design%20and%20CAD.pdf

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	W	S
CO2	S	М	S	W	S
CO3	S	S	S	W	S
CO4	S	М	S	W	S
CO5	S	W	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO	PSO 3	PSO 4	PSO 5	PSO 6
		2				
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

527C3A

CORE VII: AUTOCAD IN INTERIORS

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs Credits: 5

Year: II Semester: III

LEARNING OBJECTIVES

To enable the students to

- 1. Learn the skills of drafting 2D floor plans in CAD.
- 2. Develop knowledge towards the application of computer in designing exterior and interior of a building.
- 3. Understand the application of 3D Modeling there by upgrade their presentation skills in the design field.

COURSE OUTCOME

On successful completion of the course the student will be able to

СО	CO STATEMENT	K LEVEL
	Summarize the benefits, configuration and working requirements of	
CO1	AutoCAD software.	K1, K2
CO2	Analyze various tools available for drawing and modifying.	K2, K4
	Outline the importance of 3D Modeling in designing spaces. Analyze	
CO3	the features of the software for designing and drafting 2D designs.	K1, K3
CO4	Create 3D models for residential and commercial buildings using the tools available.	K3, K6
CO5	Identify different materials and finishes available and utilize them as per the requirements and evaluate the camera settings for 3D views.	K2, K5

THEORY

UNIT	CONTENT	HOURS
UNIT I	Overview of AutoCAD – Purpose, Need, Uses and Applications. General commands – New, Open, Save, Save as, Close and Exit. AutoCAD screen components – Title bar, Menu bar, Standard tool bar, Object Properties tool bar, Draw toolbar, Modify tool bar, UCS, Layout tab, Command Window and Status bar. Working with Drawing Aids – Grid, Snap, Ortho, Osnap, Polar Tracking, Object Snap Tracking, Dynamic Input.	10
UNIT II	Draw tools – Line, Plane, Rectangle, Arc, Circle, Polygon, Ellipse and Spline, Text – Style, Mtext, Text edit and Layer concept. Modify tools – Erase, Copy, Move, Scale, Rotate, Mirror, Offset, Chamfer, Fillet, Trim, Extent, Stretch, Array, and Break, Object selection methods.	15
UNIT III	Dimensions – Linear, Align, Angular, Radius, Diameter, Baseline, Continue, Leader. Dimension edit, Dimension styles – Lines and Arrow tab, Fit tab, Primary Units, Alternate Units, Tolerances. To create and insert Blocks and Block edit. Hatch and Gradient. Applying Dimensions, Layers, Hatch and Gradient in 2D plans.	15
UNIT IV	Solid Model - Creating 3D solids using standard primitives like Box, Wedge, Cylinder, Sphere, Cone, Torus, and Pyramid. Boolean operations - Union, Subtract and Intersect. 3D Operations - Extrude, Loft, Revolve, Sweep. Create Door and Window openings, Furniture with complex shapes and designs using Boolean operations and 3D operations.	15
UNIT V	Materials – Flooring, Wall finishes, Fabric, Plastic and Metal. Create new materials from the existing material browser. Applying the materials to the different room interiors like Living room, Bedroom, Dining room, Study room and Kitchen. Setting Background image to 3D model. Camera tool – Setting Camera to create different views and walkthrough of the interior and exterior of the building models	15
Practical		20
	Total	90

REFERENCES

- 1. Sandeep Dogra (2022). AutoCAD 2022: A Power Guide for Beginners and intermediate users, CADArtifex Publishers.
- 2. CAD Folks (2020), AutoCAD 2021 Beginners Guide. Independently Published, ISBN: 9798634102023
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- 9. Ilangovan, (Sep 1999). Engineering Drawing with AutoCAD.

E-LEARNING RESOURCES

- Ø www.cad-notes.com/autocad-articles/
- Ø https://knowledge.autodesk.com
- Ø www.cadforum.cz/cadforum_en/default.asp
- Ø www.archblocks.com
- Ø http://www.mycadsite.com/tutorials/

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	Μ	S	Μ	S
CO2	S	Μ	S	Μ	S
CO3	S	М	S	М	S
CO4	S	Μ	S	Μ	S
CO5	S	Μ	S	Μ	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

527C3B

CORE VIII: COMMERCIAL INTERIORS

Time/Hrs: Theory: 4 Hrs Practicals: 2 Hrs Credits: 5

Year : II Semester: III

LEARNING OBJECTIVES

To enable the students to

- 1. Learn about the importance and application of principles of art for commercial purpose.
- 2. Understand the technical need and specialised features for commercial buildings.
- 3. Know the holistic approach in commercial architecture.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL				
CO1	Outline the importance of commercial interior space design and analyze various materials used both in interior and exterior.	K1, K2, K4				
CO2	Apply art in commercial space designing and planning based on various purposes. Create 3D miniature models for commercial buildings with suitable materials.	K3, K6				
CO3	Understand the requirement of various technical services in commercial high-rise building.	K1, K2				
CO4	Describe the need of specialized facilities for commercial building.	K1, K2				
CO5	Discuss the holistic approach in commercial architecture. Outline the goals of designing commercial buildings.	K2, K5				
K1 - R	K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					

THEORY

UNIT	CONTENT	HOURS
	Introduction to commercial interior space design	15
	Definition, Purpose, Importance of commercial interior design. Factors	
UNIT I	influencing the design of buildings – Type of Building, Location, Nature of	
	Activity, Customers and Clients. Materials used in designing commercial	
	interior spaces.	
	Art in Commercial Space - Planning space for various commercial	15
UNIT II	requirements - Public space Vs Private Space, Designing Aesthetic and	
	functional aspects in Mall, Restaurant, Coffee shops, Theatres, Bank,	
	Airport, Hospital, Educational Institutions and Offices.	
	Technical Services for Commercial Building - Need of Technical	15
	Service, Selection of Suitable air conditioning, mechanical system -	
UNIT III	HVAC, Security system, Simple intrusion detection, Access control and	
	Surveillance systems and communication system - EPABX, Wireless	
	Intercom and Door Phone Intercom.	
	Specialized Facilities for commercial buildings – Need of specialized	
	facilities, Amenities - Elevator, Lift, Ramps, Basement Parking. Plumbing	
UNIT IV	system - Aspects of plumbing system, Public Toilets, lighting, Emergency	
	lighting staircase and evacuation routes. Building safety system - Fire	
	Safety, Automatic Fire Sprinkler system, Fire Alarm and smoke alarm.	
	Holistic Approach in Commercial Design.	15
	Importance of Holistic design approach for commercial interiors.	
	Designers and Steps in the design process. Goals of well-designed	
UNIT V	commercial interior - Healthy, Security and Safety, Comfort, Reliability,	
	Flexibility, Brand Image and Equality. Design Issues - Accessible design,	
	Facilities for operations and maintenance, Recent trends to support	
	emerging technologies.	
	Collection of materials used for designing interior space.	15
	Model making of commercial building.	
Practical	Visit to shops to identify the eco-friendly materials and their cost in the	
4001041	market	
	Built a demo model on Rain water harvesting system	
	Prepare chart on the rating methods of government agencies	
	Total	90

REFERENCES

- 1. Bonda P., Sosnowchik K., Sustainable commercial interiors, 2014, 2nd Edition, John Wiley and sons.
- Christine & Elizabeth, (2007) Designing commercial Interiors, 2nd Edition John Wiley and sons.
- 3. Buildings Energy Efficient Lighting by David Nelson, AIA David Nelson & Associates, Last updated: 07-23-2010
- 4. Mark karlen, James Benya, Lighting design basics, 2004, John wiley and sons IncUSA.
- 5. Sangeet Sharma, Architectural Aesthetics, 2005, Abhishek publications, India.

E-LEARNING RESOURCES

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- Ø http://ecoursesonline.iasri.res.in/course/view.php?id=664
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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	Μ	S	Μ	S
CO2	S	М	S	Μ	S
CO3	S	М	S	Μ	S
CO4	S	М	S	М	S
CO5	S	Μ	S	Μ	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

527C3C

CORE IX: 3D MODELLING IN DESIGN (Practical)

Time/Hrs: Practical: 6 Hrs Credits: 5

Year: II Semester: III

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the application of 3D Modeling & thereby upgrade their presentation skills in the design field.
- 2. Analyze the features of various tools in Google Sketchup for 3D Modeling
- 3. Create 3D views using Google Sketchup & Revit Software

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL				
CO1	Outline the importance of 3D Modeling in designing spaces. Analyse the features of different software's available for 3D Modeling.	K1, K4				
CO2	Interpret the user interface of Google Sketch up software. Examine the uses of tools available for creating 3D models. Create 3D models for residential or commercial buildings using the tools available.	K2, K5, K6				
CO3	Identify different materials and finishes available and utilize them as per the requirements. Evaluate the light and camera settings for 3D views. Create rendered 3D views both interior and exterior spaces using Google Sketch up	K3, K5, K6				
CO4	Outline the features of Revit software	K1, K2				
CO5	Create 3D views of residential and commercial spaces using Revit	K6				
K1 - F	K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					

PRACTICAL

UNIT	CONTENT	HOURS
	Concept of 3D Modeling	
UNIT I	Need & purpose of 3D models and views in the design field. Overview on	
	different software's & plugins used for 3D modeling - Google Sketchup, 3Ds	10
	Max, Revit, Vray.	
	User Interface of Google Sketch up	
	Components of Google Sketchup screen. Basic tools - Rectangle, Circle,	
UNIT II	Select, Pencil, Push-pull, Groups, Components, Move, Array, Copy,	
	Rotate, Offset & Paint bucket. Navigation tools - Zoom, Orbit, and Pan.	
	Creating the components of a building such as walls, doors, window	25
	openings, furniture's using the available rooms	
	Materials & Lighting	
UNIT III	Creating and applying materials to the models created. Exploring setting	
	options in lights and camera tools. Create rendered views by using Vray plugin	20
	Overview of REVIT	
UNIT IV	User Interface of Revit. Starting a New project. Working with Grids, Levels &	15
	Project views	
	3D Views using REVIT	
	Creating Building Components - Walls, Doors, Windows, Staircase, Floors,	
UNIT V	and Roofs & Ceilings. Adding Room tags and Furniture. Apply Materials &	
	lighting to 3D views	
	Total	90

REFERENCES

- 1. Aidan Chopra, SketchUp (2014) For Dummies, John Wiley & Sons
- 2. Alexander C. Schreyer (2015), Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting 2nd Edition, Wiley Publishers.
- 3. Daniel Tal, (2013) Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design, Wiley Publishers.
- 4. Kelly L. Murdock, Autodesk 3ds Max (2020) Complete Reference Guide, SDCPublications
- 5. Markus Kuhlo, (2013) Architectural Rendering with 3ds Max and V-Ray: PhotorealisticVisualization 1st Edition, Routledge Publishers.

E-LEARNING RESOURCES

- Ø https://www.sketchup.com
- Ø https://vdoc.pub/download/building-blocks-of-sketchup-69si3ltjgke0
- Ø https://www.bgsu.edu/content/dam/BGSU/libraries/documents/collab-lab/Sketchup-Tutorial.pdf
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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	W	S
CO2	S	S	S	W	S
CO3	S	S	S	W	S
CO4	S	S	S	W	S
CO5	S	S	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO	PSO	PSO	PSO	PSO 5	PSO 6
	1	2	3	4		
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

527C3D

CORE-X: RESEARCH METHODOLOGY AND STATISTICS

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs Credits: 4 Year: I Semester: II

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the fundamental principles and techniques in Research Methodology
- 2. Get an overview of the methodologies used in research.
- 3. Apply statistical procedures to analyze numerical data and draw inferences.

COURSE OUTCOME

On successful completion of the course the student will be able to

СО	CO STATEMENT	K LEVEL
	Understand Research and its characteristic features and explore	
CO1	the different types of research design. Analyze the research problems and formulate suitable Hypothesis.	K1, K2, K4
CO2	Analyze different sampling techniques and selecting the suitable sampling technique for data collection.	K2, K4
CO3	Identify methods of Data collection using scaling techniques and assessment of data.	K1, K4
CO4	Process and Analyze data through statistical analysis and SPSS software.	K4
CO5	Present research data in a scientific manner and understand the key elements of a research report.	K1, K2
K1 - R	emember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evalua	ate; K6 – Create

THEORY

UNIT	CONTENT	HOURS
UNIT I	Research: Meaning of Research - objectives of Research – Characteristics of Research – Significance of Research. Types of research – Descriptive vs. Analytical, Applied vs. fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical, Exploratory research and Ex-post Facto research. Research design: Identification of Research problem, Variable: Dependent variable, independent variable, extraneous variable. Hypothesis - Definition,	15
	types - null and alternate hypothesis. Sampling design : Definition of sample, types of sampling design- probability sampling- simple random, complex random, stratified sampling,	
UNIT II	multistage sampling and non- probability sampling - deliberate sampling, purposive sampling, convenience sampling and judgment sampling.	15
	Methods of data collection – Collection of Data - Preparation of tools for data collection –	
UNIT III	Primary Data - questionnaire, interview and observation. Secondary Data - 1. Published Sources 2. Unpublished Sources Scaling technique - Nominal, Ordinal, Interval and Ratio.	15
	 Processing of data – Editing, coding, classification & tabulation. Quantitative Analysis- Basic Concept and Simple Sums in Measures of 	
UNIT IV	Central Tendency – Mean, Median & Mode. Measure of Dispersion – Standard Deviation. SPSS Interpretation of t – test – One sample, Independent, Paired t test, ANOVA, Chi – Square – Goodness of fit.	15
UNIT V	Basics of Report writing and presentation: Significance of report writing, layout of research report, Types of report – technical and popular. Journal article, APA format reference.	15
	Practical: Create e- form for survey method. Analysis: Cross Tabulation, Frequency, Mean, Median, Mode, Graphical and diagrammatic representation of tables Applicable Statistical Analysis Software- Literature Searching-PubMed Data Analysis- Micro Soft Excel, SPSS, Plagiarism Checker – Turnitin, Scribbr reference Manager - Mendeley	15
	Total	90

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- Ø _Research_Methodology_and_Research_Method

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	Μ	S	S	S
CO2	S	Μ	S	S	S
CO3	S	М	S	S	S
CO4	S	М	S	S	S
CO5	S	Μ	S	S	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

527E3A

ELECTIVE V: RENEWABLE ENERGY RESOURCES

Time/Hrs: Theory: 3 Hrs Credits: 3 Year: II Semester: III

LEARNING OBJECTIVES

To enable the students to

On successful completion of the course the student will be able to

- 1. Know the various forms of renewable energy resources.
- 2. Understand the Indian and Global energy need and consumption scenario.
- 3. Identify the types of non-Conventional energy sources.
- 4. Recognize the modern techniques involved in hamessing renewable energy and its challenges.
- 5. Acquire skills in extracting and handling renewable energy.

COURSE OUTCOME

СО	CO STATEMENT	K LEVEL
CO1	Understand the theory of energy sources and the need for renewable energy in the present scenario.	K1, K2
CO2	Appraise the new technological innovation and the efficiency of solar energy applications and its working principles.	K3, K5
CO3	Analyze and adapt the significance of utilizing wastes into energy.	K4, K6
CO4	Evaluate the new venture of wind energy technologies and its Applications	K3, K5
CO5	Compare and apply other forms of renewable energy, wave power, tidal power and geothermal principles, its applications.	K3, K4

THEORY

UNIT	CONTENT	HOURS
UNIT I	Energy as a resource - conventional and non- conventional sources, renewable /non-renewable energy, energy management, national efforts on energy conservation. Need and Consumption Scenario in Renewable Energy. Forecasts for Renewable Energy. Environmental Impacts of Energy Sources.	
UNIT II	Solar Energy : Sun as a Source Energy – Solar Photovoltaic Technology and Principles – Application in Solar Water Heater - Solar Dryer – Solar Distillation (Still) – Solar Pumping Systems – Solar Air Conditioning and Refrigeration – Solar Cooker – Solar Green House.	
UNIT III	Bio Energy: Introduction to Biomass – Biomass Resources - Conversion Technologies – Thermal Conversion – Chemical Conversion – Biochemical Conversion – Background of Biogas – Source and Composition – Types of Biogas Plants – Operational Factors of Biogas Plant – Extraction of Energy from Wastes.	
UNIT IV	Wind Energy: Fundamentals of Wind Energy Conversion System (WECS) – Basic Components of Wind Power System – Types of Wind Turbines – Modes of Wind Power Generation – Stand Alone Mode – Backup Mode – Grid – connected mode.	
UNIT V	Other Renewable Energy Sources : Geothermal Energy – Basic Concepts – Geothermal Resources – Benefits and Challenges – Applications of Geothermal Energy – Tidal and Wave Energy, Technologies, Turbines, Prospects and Constraints of Tidal and Wave Energy.	
	Total	45

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- Ø https://www.energy.gov/energysaver/small-wind-electric-systems

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	W	S	М	S
CO2	Μ	W	S	М	S
CO3	М	W	S	М	S
CO4	М	W	S	М	S
CO5	М	W	S	М	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO2	PSO 3	PSO 4	PSO 5	PSO 6
C01	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

527S3A

SEC II: RESEARCH WRITING & TECHNIQUES

Time/Hrs: Theory: 3 Hrs Credits: 2 Year : II Semester: III

LEARNING OBJECTIVES

To enable the students to

On successful completion of the course the student will be able to

- 1. Introduce the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
- 2. Exposure to the various forms of research and research methodology processes.

COURSE OUTCOME

CO	CO STATEMENT	K LEVEL
CO1	Demonstrate an understanding of the purpose and significance of research.	K2, K3
CO2	Formulate clear and focused research questions that address specific gaps or areas of inquiry within a given field of study.	K5, K6
CO3	Develop well-structured and reliable data collection instruments, such as questionnaires, interview guides, and observation protocols.	K4, K6
CO4	Analyze and interpret research findings accurately, considering the research objectives and the data analysis results.	K4, K5
CO5	Write clear, concise, and coherent reports that effectively communicate the intended message.	K1, K3

THEORY:

UNIT	CONTENT	HOURS
	INTRODUCTION TO RESEARCH WRITING	
UNIT I	Understanding the research process from idea generation to publication.	5
UNITI	Explore types of research, including qualitative, quantitative and mixed	
	methods approaches.	
	LITERATURE REVIEW & SOURCE EVALUATION	
	Formulate clear and focused research questions. Develop skills in	
UNIT II	conducting a thorough literature review.	
	Research Ethics: Discuss the importance of ethical considerations in	
	research, plagiarism avoidance and ensuring participant confidentiality.	10
	DATA COLLECTION	
	Methods of data collection- Primary sources: observation and	
UNIT III	recording, interviews structured and unstructured, questionnaire, open	
	ended and close ended questions and the advantages of the sampling.	
	Collecting data from secondary sources.	10
	DATA ANALYSIS AND INTERPRETATION	
	Data Analysis Techniques: Learn quantitative and qualitative data	
	analysis techniques. Data visualization techniques: histograms, scatter	
UNIT IV	plots, box plots, Bar graph, Line graph etc.,	10
	Results Interpretation: Develop skills in interpreting research	
	findings and effectively communicating the significance and	
	implications of the results.	
	RÉPORT WRITING	
	Writing Process: Understand the stages of the writing process,	
UNIT V	including prewriting, drafting, revising and editing, to produce coherent	
UNIT	and well-structured research.	10
	Citation and Referencing: Learn and apply appropriate citation styles,	
	such as APA format.	
	TOTAL	45

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MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	Μ	Μ	М	S	S
CO2	М	М	М	S	S
CO3	М	М	М	S	S
CO4	М	М	М	S	S
CO5	М	М	М	S	S

Mapping with Programme Specific Outcomes

PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
3	3	3	3	3	3
15	15	15	15	15	15
3	3	3	3	3	3
	3 3 3 3 3 15	3 3 3 3 3 3 3 3 3 3 15 15	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 15 15 15	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 15 15 15 15	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 15 15 15 15 15

527S3B

INTERNSHIP

Time/Hrs: 30 Hours Credits: 2

Year: II Semester: III

Students in the interior design program are required to participate in the department coordinated internship program with interior design firms that involves a minimum of 30 Days professional experience. At the conclusion of this experience students submit a final project that demonstrates theirgrowth of knowledge and skills in the field of interior design.

Objective: The Internship is committed to preparing graduates in the M.Sc., Interior Design and Décor Degree to join as entry level Designers with a strong foundation with professional experience.

Expected Outcome of the Internship

On successful completion of the internship, the student:

- Learns how interior design firm functions and the specific roles and responsibilities of a designer.
- Gains knowledge about industry/company process.
- Develops skills in 2D and 3D software.
- Analyse cost estimation of building materials and finishes.
- Learns the methods and strategies used in cost control.
- Develops managerial skills in the areas of managing works required by the client.
- Adapts to working in a team and contributes to needs as they arise.
- Demonstrates competency in professional presentation, communication and writing skills.

Internships will be permitted in the following areas:

- a) Regional and National Interior design firms/Architecture firms.
- b) Construction companies Space planning
- c) Manufacturing Sectors Metal arts and crafts, Ceramic design, Interior decoration products.
- d) Building Material and Finishes Companies.
- e) Interior design specializations Lighting design, Furniture design, cost estimation, specification writing, materials and product research, sustainable design, historic preservation, community development, facilities management, construction administration and culture-based design.
- f) Related specializations Model home design, kitchen and bath design, artrepresentation, color specialist, architectural writing and publication and architectural photography.

Evaluation

Internship will be carried out during the summer vacation of the second semester and the report will be evaluated by the two examiners within the department.

527C4A

CORE 11: RESOURCE MANAGEMENT

Time/Hrs: Theory: 6 Hrs Credits: 5 Year : II Semester: IV

LEARNING OBJECTIVES

To enable the students to

- 1. Understand the Concepts, Significance and Principles of Resource Management.
- 2. Apply the skills in efficient use and management of time, energy and Money.
- 3. Understand Consumer behaviors, Problems and to learn the importance of consumer protection.

COURSE OUTCOME

On successful ccompletion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
	Identify and analyze the need for resources and apply decision making	
CO1	skills.	K2, K3, K4
CO2	Understand the role of resource and apply the same to prepare time plans.	K2, K3, K6
CO3	Apply work simplification techniques for efficient use of energy.	К3
CO4	Develop skills to prepare a budget within the available income and to maintain accounts.	K1, K6
CO5	Highlight the need of consumer protection by understanding and identifying the consumer behavior & problems.	K1, K2

THEORY

UNIT	CONTENT	HOURS
UNIT I	Management Process – Definition, concept, characteristics, Motivating factors in management – Values, Goals and Standards. Management process – Planning, Organizing, Controlling and Evaluation. Decision making - Meaning and its importance, Kinds of decisions, Steps in Decision making process, Factors affecting Decision making process, Methods	20
UNIT II	of resolving conflicts. Resources - Definition, Role of resource in management, Classification of resources, Factors affecting the use of resources, Maximizing the use of family resources, Conservation of resources. Time management – Definition, concept, Tools in time management - Peak loads, Work Curve and rest periods. Time management process – Steps in making time plans - Controlling the planning action - Evaluation. Time demands during different stages of the family life cycle.	20
UNIT III	 Energy Management - Energy requirements for household activities, Fatigue-concepts, Types - Physiological and Psychological fatigue, Remedies to overcome fatigue and Magel process applied to energy. Work Simplification - Definition, Importance, Techniques – Formal and Informal Techniques - Mundel's Classes of change. 	20
UNIT IV	Money management – Concept of Income, Sources and types of family income, Methods of supplementing family income, Steps in money management, Methods of handling money income, Budgeting, Steps in making budget, Controlling the use of income, Types of Records, Evaluation, Savings and its advantages.	15
UNIT V	Consumer - Definition, Role, Rights and Responsibilities, Consumer behavior, Consumer problems, Education and Empowerment. Consumer protection, consumer organization, cooperatives, alternative redressal, standardization, standard marks, quality control, buying aids, consumer legislation.	15
	Total	90

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- Ø Consumer Education in Resource management, https://www.nios.ac.in/media/documents/srsec321newE/321-E-Lesson-17.pdf

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	Μ	Μ	S	S	S
CO2	Μ	Μ	S	S	S
CO3	М	М	S	S	S
CO4	М	М	S	S	S
CO5	М	М	S	S	S

MAPPING OF COs WITH POs

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded of)						
of Course Contribution to POs	3	3	3	3	3	3

Strong 3 Medium 2 Low 1

527C4B

CORE XII: ERGONOMICS IN INTERIORS

Time/Hrs: Theory: 6 Hrs Credits: 5 Year : II Semester: IV

LEARNING OBJECTIVES

To enable the students to

- 1. Become aware of the ergonomic principles for improving work efficiency.
- 2. Know the anthropometric dimension of workers and acquire practical knowledge in designing furniture.
- 3. Inculcate work efficiency using various work simplification techniques.
- 4. Know the importance of Healthy Buildings and plan an effective workplace.

COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Describe the basic ergonomic principles and understand the need of the work environment in a place.	K1, K2
CO2	Understand the anthropometric dimension of humans and analyze spatial requirements.	K2, K4
CO3	Critically evaluate the environmental factors affecting human beings such as light, sound, noise, climate and vibrations.	K2, K5
CO4	Outline the importance of body mechanics. Demonstrate application of work simplification techniques effectively.	K2, K3, K4
CO5	Discuss the need for ergonomics in buildings, analyze the issues and appraise the importance of Healthy Building.	K2, K4, K5

THEORY

UNIT	CONTENT	HOURS
	Ergonomics	
	a. Ergonomics - significance, scope, man, machine, environment	
	relationship, factors affecting physiological cost of work, body	
	mechanics, functional design of workplace, time and motion study,	
	energystudies.	
UNIT I	b. Concept of work, workplace and work environment – designing work	
	areas based on ergonomic principles and workers.	
	c. Factors influencing the Work environment – Location, space, comfort	20
	anddiscomfort, indoor and outdoor climate, furniture, lighting and	
	ventilation, flooring and noise.	
	Anthropometry Spatial requirement	
1	a. Definition, Type of data – Structural and Functional, Anthropometric	
	measurements – Head circumference, Height, Weight IBW and BMI.	
UNIT II	b. Work heights when seated and standing - Stature, Eye Height, Elbow	
	height, Elbow Rest Height, Knee height, Popliteal Height, normal and	
	maximum reach, vertical and horizontal reach.	20
	c. Anthropometric consideration in furniture designing.	-
	Environmental factors	
	a. Lighting - Adequacy of lighting at workplace, physiological	
	requirement, psychological effect of lighting and the work efficiency of	
	the worker.	
UNIT III	b. Noise - Definition, sources of noise, indoor and outdoor noise level,	
	effects of noise on psychological and intellectual activities, measurement	
	of noise.	20
	c. Temperature - air movements, humidity, exchange of heat between	
	human body and surroundings.	
	Improving Product design and work efficiency	
	a. Product design - design thinking process, diffusion and innovation,	
UNIT IV	design communication, ergonomic considerations.	
	b. Body Mechanism - effective use of body mechanics, posture in House	
	work, Good Posture and Bad Posture.	15
	Ergonomics in public building	
	a. Importance of Healthy Building and Ergo Issues.	
	b. Elements of Ergonomic Consideration in Building Interiors – Good	
UNIT V	SpacePlanning, Circulation and Access.	
UINII V	c. Well Planned ergonomic workplace and furniture for Old Age and	
	Physically Challenged persons, to prevent Work-Related	15
	MusculoskeletalDisorder (WMSD) and Prevent Occupational Injuries	
	and Illnesses	
1	Total	90

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content/uploads/ebook/ip/BUKU%20ERGONOMI/BUKU%20INGGRIS/Ergonomics %20For%20Beginners.pdf

Ø https://www.youtube.com/watch?v=Hf5b_Ad5biM

MAPPING OF COs WITH POs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	Μ	S	S	S
CO3	S	S	S	S	S
CO4	S	М	S	S	S
CO5	S	Μ	S	S	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage (rounded of)					
of Course Contribution to POs	3	3	3	3	3

527C4C

PROJECT WORK PROJECT WITH VIVA VOCE

Time/Hrs: 10 Hrs Credits: 7

Year : II Semester: IV

LEARNING OBJECTIVES

To enable the students to

- 1. Develop skills in conducting research study.
- 2. Learn the art and science of preparing and presenting a research document.

COURSE OUTCOMES

On successful completion of the course, the student will be able to

СО	CO STATEMENT	K LEVEL
CO1	Develop a research design on a topic relevant to their field	K2, K5, K6
CO2	Prepare a systematic literature review on the topic selected	K2, K6
CO3	Select and execute the most appropriate methodology for the study and provide justification for the choice made.	K2, K3
CO4	Acquire skill in collecting, analyzing, presenting and interpreting data accurately.	K1, K2, K3
CO5	Present findings of the study in a logical and sequential manner and discuss them against a backdrop of available scientific literature; Cite references in prescribed format and conduct plagiarism check on the document prepared.	K2, K3
K1 - R	Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate;	$\mathbf{K6}$ – Create

COURSE OUTLINE:

The structure of the dissertation includes

Unit1: Introduction

Unit 2: Review of Literature

Unit 3: Methodology

Unit 4: Results and Discussion

Unit 5: Summary and Conclusion, Bibliography

MAPPING OF COs WITH PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	М	Μ	Μ	S	S
CO2	М	Μ	Μ	S	S
CO3	М	М	М	S	S
CO4	М	М	М	S	S
CO5	М	М	М	S	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	3	3	3
CO3	3	3	3	3	3	3
CO4	3	3	3	3	3	3
CO5	3	3	3	3	3	3
Weightage	15	15	15	15	15	15
Weighted percentage (rounded						
of) of Course Contribution to	3	3	3	3	3	3
POs						

Strong 3 Medium 2 Low 1

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527S4A

PROFESSIONAL COMPETENCY SKILLS FOUNDATION FOR COMPETITIVE EXAMS IN HOME SCIENCE- INTERIOR DESIGN AND DECOR

Time/Hrs: Theory: 4 Hrs Credits: 2

Year : II Semester: IV

LEARNING OBJECTIVES

To enable the students to

Get acquainted with important concepts in various branches of Home Science Be prepared for NET, SLET/SET and other competitive exams in the field of Home Science.

COURSE OUTCOMES

On successful completion of the course, the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand and implement proficiency in mathematical, logical and numerical reasoning.	K1,K2,K3
CO2	Acquire specific nutritional needs and challenges associated with each life stage.	K3, K4
CO3	Analyze the physical, cognitive, emotional and social changes that occur from infancy to old age.	K3, K4
CO4	Develop the skills to promote positive social change, foster community engagement and advocate for sustainable development through communication interventions.	K4, K5
CO5	Evaluate the ability to build strong relationships with communities and foster a sense of ownership and empowerment among participants in extension education programs.	K4, K5
K1 - F	Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 -	- Create

THEORY

S. No	CONTENT	No of
		hours
Unit I	Aptitude and Reasoning:	
	Types of Reasoning: Number series, Letter series, Codes, and Relationships.	
	Mathematical Aptitude: Fraction, Time & Distance, Ratio, Proportion and	
	Percentage, Profit and Loss, Interest and Discounting, Averages.	15
	Logical Reasoning - Understanding the Structure of Arguments, Deductive and	
	Inductive Reasoning.	
	Information and Communication Technology (ICT) - Basics of the Internet,	

	Intranet, E-mail, Audio and Video-conferencing, Digital initiatives in Higher	
FT •4 TT	Education and in Home Science, ICT and Governance.	
Unit II	Nutrition and Dietetics Food groups, Nutrients - Role of nutrients in the body, nutrient deficiencies and requirements for Indians. Nutrition through life span-physiological changes, nutritional needs and dietary guidelines for adequate nutrition through life cycle. Community nutrition - nutritional assessment, national nutrition policies and programmes, nutrition security, sports nutrition - energy systems, nutrient requirement of athletes, therapeutic nutrition.	15
Unit III	Human DevelopmentPrinciples of growth and development, care during pregnancy and pre-natal and neonatal development. Early childhood care and education. Influence of family, peers, school, community and culture on personality development. Children and persons with special needs, care and support, special education, prevention of disabilities, rehabilitation. Adolescence and youth: changes, challenges and programs to promote optimal development. Adulthood, characteristics, changing roles and responsibilities in early and middle adulthood. Aging-physical and psychological changes and care needs.	10
Unit IV	Apparel designing:Body measurements, pattern making, apparel quality testing, care and maintenance of clothing & fashion terminologies.Communication for development:Basics of communication- characteristics, functions, process, models, barriers, perception, persuasion and empathy, types of communication, process of listening. Concept of development - communication models and approaches, diffusion and innovation, mass media, social marketing. Concerns of development communication- gender, health, environment, sustainability, human rights, population, literacy, rural and tribal development.	10
Unit V	Extension Education Meaning, Definition, objectives, characteristics, principles, Extension teaching methods. Communication, Innovation and Social change. Community development, Panchyati Raj institutions, NGOs and community based organisations. Development programmes in India for urban, rural and tribal population groups programmes for nutrition, health, education, wage and self-employment, women's development, skill development, sanitation and infrastructure.	10
	Total	60
REFERE	Activity1.To solve past 5 years competitive exam question papers	

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- 11. Rastogi Deepali, Chopra Sheetal (2017), TEXTILES SCIENCE. Orient Blackswan Private Limited; First Edition (19 April 2017)

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	W	W	W	М	W
CO2	W	W	W	М	W
CO3	W	W	М	М	W
CO4	W	W	W	Μ	W
CO5	W	W	W	М	W

MAPPING OF COs WITH POs

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	1	1	1	3	3	3
CO2	1	1	1	1	1	1
CO3	2	3	3	1	2	3
CO4	3	3	2	3	3	3
CO5	3	3	3	3	3	3
Weightage	10	11	10	11	12	13
Weighted percentage						
(rounded of) of Course	2	2	2	2	2	3
Contribution to POs						