TECHNO INDIA UNIVERSITY
WESTBENGAL

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**5-Year Bachelor of Architecture (B.Arch.) Curriculum and Syllabus**

# Seventh Semester

| Course Code | Course Title | Contact Hrs. / Week | | | Credit |
|---|---|---|---|---|---|
| | | L | S | P | |
| **Theory** | | | | | |
| TIUAR - 701 | Housing & Settlements | 3 | 0 | 0 | 3 |
| TIUAR- 702 | Urban Design | 3 | 0 | 0 | 3 |
| TIUAR- 703 | Architectural Conservation | 2 | 0 | 0 | 2 |
| TIUAR- 704 | Valuation of Real Properties | 2 | 0 | 1 | 3 |
| TIUAR- 705 | Energy Efficient Architecture | 2 | 0 | 0 | 2 |
| TIUAR/E-706A/B | Vernacular Architecture OR Architectural Psychology & Sociology | 2 | 0 | 0 | 1 |
| **Practical** | | | | | |
| TIUAR- 707 | Educational Tour | 0 | 0 | 0 | 2 |
| **Sessional** | | | | | |
| TIUAR- 708 | Architectural Design - VI | 0 | 12 | 0 | 10 |
| TIUAR- 709 | Interior Design Practice | 0 | 6 | 0 | 4 |
| **Institute Programme** | | | | | |
| | | | | | |
| | | | | | |
| **Total Credits** | | | | | **30** |

**Note: The Sessional and theory subject load would not allow any space for Institute Programme since 7th Semester**

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## HOUSING & SETTLEMENTS (TIUAR – 701) L – S – P (3 – 0 – 0)

**Credits-3**

**Objectives**

- To select different types of housing and methods of delivery for housing schemes
- To explain the issues involved with changing contextual policies for housing and generalise the new directions of opportunities
- To analyse the different factors affecting the housing market
- To assess housing shortage and decide criteria for selection of land for development in order to bridge the gap in a settlement/ part of a settlement
- To analyse the nature and causes of growth of deficient housing / slums and identify differentiated needs across income categories
- To explain the significance of current slum related contextual programmes, identify scope of improvement and formulate slum improvement schemes
- To evaluate and apply the settlement plan provisions affecting the housing delivery and development
- To apply the standards, norms and statutory regulations affecting the housing development and design of housing neighbourhoods
- Parametric assessment of housing quality.

### MODULE I

**Introduction to Housing**

Definition & concept of Housing
Types of Housing: Detached, semi-detached, row, town house, apartment, Farmhouses etc.
Form of Housing provision: Plotted, Group Housing, Cooperative, Self Help, Leasehold, Freehold / Condominium, Rental Housing etc.
Special Housing types: Barrier free, Mobile homes, congregate housing for assisted living, disaster housing, Student & public housing, Guest house, Night shelters, Incremental Housing etc.

### MODULE II

**Housing Scenario & Housing Finance**

Housing situation in India: an overview
Census classification of houses, Computation of Housing Shortage
Housing Finance: Formal & Informal Housing Finance Markets, Mobilisation of Savings, Sources of Capital & Institutional Finance
Housing Micro-finance for Poor: Issues & Constraints
Housing Need vis-à-vis Demand, Public vis-à-vis Private Sector

### MODULE III

**Housing & Urban slums**

Understanding the causes of growth of Slums, Squatter settlements & Urban sprawl
Types and generic characteristics of slums
An overview of measures & approaches to slums & squatter settlements
Objectives of National Slum Policy (2002)
Concept of few schemes e.g.: Site & Services, EIUS, BSUP, VAMBAY, IHSDP

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## MODULE IV

**Affordable Housing, new trends & Housing Policy**

- Components of Housing Cost & approach for affordable housing
- Characteristics of Urban housing vis-à-vis Rural housing
- Goals, Objectives & contents of National Housing & Habitat Policy (2007)
- Examples of housing schemes & programmes e.g., IAY, IHSDP etc.
- Trends in Housing Design

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## MODULE V

**Urban Settlement Planning System & Processes**

Recommended Planning system & inter-related plans
Scope, purpose & inter-relationship of various plans
Plan formulation process
Public sector & private sector actions & concept of joint venture
Contents of a Development plan

## MODULE VI

**Norms & Standards for Urban & Housing Development**

Town & Residential density, FAR, Different types of codes/ norms affecting settlement development planning,
Land –use Classification & compatibility of uses (e.g., compatible uses in residential zone)
Factors affecting space standards / land requirements for facilities
Land area requirement for different uses in a town & for community facilities in a sector/ residential planning area
Design Considerations based on subdivision norms / regulations

## MODULE VII

**Concept of Neighbourhood & Housing Quality Indicators**

Concepts of cluster, Blocks & Neighbourhood
Neighbourhood planning principles & examples
Indicators and checklist for safe communities or neighbourhoods
Housing Quality Indicators

**Recommended Books:**

1. J.D.Chiara et al; Time Saver Standards For Housing & Residential Development.
2. Bawa R. L., Fernandes B. G.; Design for Living: A Guide for Planning of Residential
3. Neighbourhoods; Galgotia Publishing Company; N. Delhi
4. Ilay Cooper, Barry Dawson, Traditional Buildings of India
5. Modak & Ambedkar; Town & Country Planning & Housing
6. Poulose K T(compiled); Reading Material on Housing; Institute of Town Planners, India; New
7. Delhi; 2002
8. ITPI; Urban Development Plan Formulation & Implementation Guidelines; Ministry of Urban Development & Poverty Alleviation; Govt. of India
9. Charles Abrams; Housing in the third world

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## URABAN DESIGN (TIUAR – 702)

**L – S – P (3 – 0 – 0)**
**Credits-3**

**Course Objective:**

- Obtain insight into how evolutionary processes have determined the state of human settlements and urban design around the world today.
- Understand various issues and issues related to human settlements and urban design and their implications.
- Integrate theories with the practical world through the different elements and forms so as understand urban form and design.
- Extend the substantive knowledge of past human settlements to anticipate possible future outcomes and provide design interventions for them.

### MODULE I

Evolution of human settlements in ancient period, early examples of urban design in medieval, classical and pre-industrial cities. Ancient text and treatise on planning in India.

### MODULE II

Industrial revolution and town planning concepts, heritage and the roots of our modern concepts in urban design, settlement and area planning in India. Planning of new towns in India: Chandigarh, Gandhinagar and Bhubaneswar

### MODULE III

Contribution of the following: Ebenzer Howard, Prattrick Geddes, Lewis Mumford, Robert Owen, C.A. Doxiadis, Tony Garnier and Le Corbusier and their modern planning concepts.

### MODULE IV

Objectives and scope of Urban design, Basic functions, principles and techniques. Value enhancement, aesthetics and conservation aspects.

### MODULE VI

Surveys in Urban Areas, Scale in Urban design, Urban mass, perceiving & mapping a city, Urban Space. Urban activity & circulation. Examples at regional, metropolitan, Urban and project level.

### MODULE VII

Designing the parts of city - central areas, the town center, civic spaces, shopping centres, Industrial Areas and estates. Residential areas & Housing.

### MODULE VIII

Techniques of Urban Design with emphasis on public policies, conservation and economic considerations, Road forms, serial, grid iron, Hierarchy of access routes – Pedestrian areas and malls & Urban elements.

**Recommended Books:**

1. Paul D. Spreiregen :Urban Design. The Architecture of towns & cities- McGraw Hill
2. Gorden Cullen ; Town Scape
3. Frederick Gibberd ; Town Design
4. Edmond Bacon ; Design of cities
5. Kevin Lynch; Image of the city

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6. Lewis Mumford; The City in history
7. S. C. Rangwala; Town Planning
8. M. N. Buch ; Planning the Indian City
9. Gallion ,A.B; The Urban Pattern.

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## ARCHITECTURAL CONSERVATION (TIUAR – 703) L – S – P (2 – 0 – 0)

**Credits-2**

**MODULE I**

Definition of conservation and its socially accepted meanings, objectives, Theories, Principles and concepts of conservation and its application. Values and Ethics in conservation and Degrees of intervention in historic buildings & monuments & Why to conserve issues.

**MODULE II**

History of conservation movement in the world and Indian response to the movement. History of Indian conservation movement. Development of theory of conservation and various charters of International importance like Venice Charter, Burra Charter, Bombay Heritage Act.

**MODULE III**

Causes of Decay in Cultural property, External causes of Decay, Biological & Botanical causes, Natural disasters & Man made causes of decay, Remedies for these decay. The context of inspecting historic building – Inventory – Initial inspections of buildings – continuing Documentation, norms for grading and enlisting.

**MODULE IV**

Actual conservation techniques for relevant building materials. Some specifications & instruction about parts of buildings. Such as foundations walls, chhajjas, wall tops, roofs & terraces with various examples of conservation practised globally.

**MODULE V**

Concept of Historic towns, quarters & areas concept of Heritage zone and concept of Integrated conservation with global examples.

**MODULE VI**

Conservation Planning based on inspections and surveys. Examples of Revitalization projects all over the world. Reuse and Redevelopment of historic building and areas with examples of actual projects. Procedures for giving new uses to old buildings, examples of infill.

**MODULE VII**

Planning and Management aspects in conservation. Policies, legislation and agencies of conservation. Intra-disciplinary monitoring and management techniques. Economics in conservation, Public management of heritage, heritage ecosystem,

**Recommended Books:**

1. Sir Bernard M. Feilden; Conservation of Historic Buildings, Architectural Press, London.
2. Sir Bernard M. Feilden; Guidelines for conservation; Architectural Press, London.
3. A. G. K. Menon & B. K. Thapar; Heritage Zones
4. Xavier Greffe; Managing our Cultural Property; Aryan Book International, New Delhi.
5. Robert Pickard; Policy involved in Heritage Conservation;
6. Eduardo Rojas & Claudio de Moura Castro; Lending for Urban Heritage Conservation.
7. Nahoum Cohen, Urban Conservation.

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# VALUATION OF REAL PROPERTIES (TIUAR – 704) L – S – P (2 – 0 –1)

**Credits-3**

## MODULE I

**Introduction**

1. Elements of economics- Functions of utility, demand, production, cost and profit
2. Land economics- concept, scope and objectives
3. Levels of decision making

## MODULE II

**Financial Analysis**

1. Times values of money
2. Financing mechanism
3. Concepts and factors governing cost of capital
4. Risk and return

## MODULE III

**Demand Analysis**

1. Concept of Demand forecasting and its common methods-Delphi, Trend projection and Exponential
2. Uncertainties of demand forecasting

## MODULE IV

**Analysis of Projects**

1. Project constraints
2. Project analysis and Ranking
3. Introduction to project appraisal and feasibility study

## MODULE V

**Concept of Valuation and Measurement of Depreciation**

1. Concept and purpose of valuation
2. Function of a Valuer
3. Concepts of value and cost and its different types
4. Characteristics of an ideal investment
5. Annuity, Sinking fund and Year‘s purchase
6. Appreciation, Depreciation, Obsolescence and Amortization
7. Process and types of depreciation calculation

## MODULE VI

**Techniques of Valuation for Land and property**

1. Rental method,
2. direct comparison method,
3. profit based method,
4. development method,
5. land and building method

**Recommended Books:**

1. Prasanna Chandra, -Projects: Planning, Analysis, Selection, Implementation and Review‖;Tata Mc-Graw Hill Publishing Company Limited;ISBN 0-07-462049-5
2. Baumol, -Linear Programming‖;Tata Mc-Graw Hill Publishing Company Limited;ISBN 0-07-462049-5
3. Hamdy H. Taha, -Operations Research: an Introduction‖;Prentice Hall of India Private Limited
4. ISBN 81-203-1222-8

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5. M. Chakraborty, -Estimating, Costing, Specification and Valuation in Civil Engineering‖;Published by the author
6. BK Sengupta, Somnath Sen; ITPI Reading Journal; ‖Land Economics

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## ENERGY EFFICIENT ARCHITECTURE (TIUAR – 705) L – S – P (2 – 0 –0)

**Credits-2**

**Course Objectives:**

- Apply technical knowledge to conserve energy in the building sector.
- Understand the impact of global energy crisis and accordingly commit to professional responsibilities involved in it.
- Recognize the need for decreasing energy consumption in buildings and thus can incorporate specific measures for increasing energy conservation.
- Provide design solutions for energy efficient buildings.
- Create, select and apply appropriate resources and modern engineering tools to reduce waste, pollution and environmental degradation caused by buildings.
- Conduct investigation to promote efficient use of energy, water and other resources related to the buildings.
- Demonstrate knowledge related to sustainable development.

### MODULE I

**Background**

- Energy its use & Energy Efficiency,
- Growth pattern of Energy use,
- Energy Sources – renewable energy ,
- Global Energy Scenario,
- Energy Crisis,
- Energy Efficiency Aspects of Building Design.

### MODULE II

**Energy and Building**

- Energy Consumption in Building,
- Factor Effecting Energy Consumption,
- Energy Model,
- Energy Audit ,
- Conserving Energy,
- Introducing Green Buildings

### MODULE III

**Energy Performance of a Building**

- Thermal Performance of a Building,
- Visual Performance of a Building,
- Ventilation & Air Movement,
- Performance of Building Materials,
- Solar Energy- the prime renewable energy source in Building Sector.

### MODULE IV

**Energy Conservation : Passive Solar Techniques**

- Basic Architectural Design Strategy,
- Thermal Comfort Criteria and Heat Flow within a building,
- Passive Heating Techniques,
- Passive Cooling Techniques,
- Daylighting

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## MODULE V

**Energy Conservation: Active Solar Techniques**

- Active Space Heating Techniques,
- Active Solar Water Heating,
- Solar Collectors,
- Storage of Solar Energy,
- Active Cooling Techniques

## MODULE VI

**Energy Efficient Landscaping**

- Integrating Landscape with the building design,
- Climate, Site and Design Consideration,
- Sun and Wind Control through Landscaping,
- Water as Energy Efficient Landscaping Element,
- Urban Design and Outdoor Spaces

## MODULE VII

**Green Building Concept**

- Green Building – definition and attributes,
- Genesis of Green Building,
- Reducing Environmental degeneration and wastage,
- Implementation and Application measures in Green Buildings,
- Green Buildings in India

**Recommended Books:**

1. Bruce Anderson; –Solar Energy: Fundamental in Building Design‖
2. Anna Main, S. Rangaranjan,‖ Solar radiation over India.‖
3. B. J. Brinkworth –solar energy for Man‖
4. H.P. Garg, –Advances in solar energy Tech.‖
5. Lunde; - Solar Thermal Engg.‖

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# VERNACULAR ARCHITECTURE (TIUAR/E – 706A) L – S – P (2 – 0 –0)

**Credits-1**

**Course Objectives**

- The subject looks at specific vernacular architectural communities of India
- Identifies and interprets specific local, regional, and national vernacular traditions from India
- Develops a broader sense of understanding of the relationship between architecture, environment and culture

## MODULE I

**Introduction to the field of Vernacular Architecture**

Defining and differentiating vernacular architecture from contemporary architecture, Scope of Vernacular Architecture in Indian Context , Factors Influencing Vernacular Architecture, Building Material and Construction Techniques in Indian Vernacular Architecture, Vernacular Architecture in 21st Century

## MODULE II

**Vernacular Architecture of Rajasthan**

Banni Community and their Bhunga House from Rajasthan, Brahmin Caste and their Havelis, Rajputs and their Havelis , Hindu Merchants and their Havelis from Rajasthan, Shekawati Haveli of Rajasthan, Construction techniques and materials of the region.

## MODULE III

**Vernacular Architecture of Gujarat**

Rathva Tribe of Gujarat , Chodri Tribe, Sociology and Planning of North Gujarat Sciology and Planning of Rural South Gujarat , Sociology and Planning of Saurashtra , Sociology and Planning of Muslim Community in Gujarat, Woodwork Details of Gujarat

## MODULE IV

**Vernacular Architecture in the Eastern Hills**

Rural Villages and Houses of Bengal, Khasi community of Meghalaya Bodo Kachari tribe, Adi Gallong folk of Sian district, Arunachal and their settlement pattern , Naga house , Morung of Naga Community , Thadou Kukis Community of Manipur

## MODULE V

**Vernacular Architecture of Bengal**

Eight Roof House Structure of Bengal style, Four Roof House Structure of Bengal style, Bunglow Construction.

## MODULE VI

**Vernacular Architecture of the North**

Regional topography, local climate, settlement pattern, TOQ construction, Dhajji Diwari Construction, local material.

## MODULE VII

**Vernacular Architecture of the South**

Regional topography, local climate, variation in settlement pattern and architecture in different part of the region.

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## Recommended Books:

1. Dawson Bary, Cooper Ilay : Traditional Buildings of India,1998
2. Michell, G., Penguin Guide to the Monuments of India, Vol I, Viking, London 1989.
3. Tadgell, The History of Indian Architecture, Design and Technology Press, London 1990.
4. Paul Oliver, Encyclopedia of Vermacular Architecture of the World, Cambridge University Press, 1997.
5. V.S. Praman, Havali – Wooden Houses & Mansions of Gujarat, Mapin Publishing Pvt. Ltd., Ahmedabad, 1989.
6. Kullrishan Jain & Minakshi Jain – Mud Architecture of the Indian Desert, Aadi Centre, Ahmedabad, 1992.
7. G.H.R. Tillotsum ;The tradition of Indian Architecture Continuity, Controversy – Change since 1850, Oxford University Press, Delhi, 1989.
8. Richardson,Vickey; New Vernacular Architecture: Laurance King Publishing,2001

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# ARCHITECTURAL PSHYCOLOGY & SOCIOLOGY (TIUAR/E – 706B)

**L – S – P (2 – 0 –0)** **Credits-1**

**Course Objectives:**

- Analyze how architectural sociology assists in perceiving the human use of space
- Examine the social issues and changes and draw directions for designs.
- Analyze determinants of social context and apply the in architectural design.
- Synthesize on the dependency of economic parameters on social and built forms and appraise future solutions.
- Develop and implement solutions for contemporary social issues
- Design built environment integrated with social institutions.

## MODULE I

**Sociology - Basic Concepts**

Sociology and its uses in human settlement studies; Social structure, concept of culture and differentiation of space; Socio-cultural processes: Socialization, competition, accommodation, culture change, Cultural-lag; Social stratification, class structure, family structure and human community development; Socio economic parameters of community planning; Sociology and its relationship with Architecture**;**

## MODULE II

**Society and Architecture**

Historical moorings of the world society and development of architecture; Social Impact on human living environment: examples from Industrial and French Revolution; Social diversity and choices on community settlements- impact of House-form and culture; Socio-cultural transformation through the ages and impacts on built environment; Social identity and architectural relevance.; Contribution of society, social structure and culture on the development of Vernacular architecture; High rise and low rise structure – design approach with social perspective.

## MODULE III

**Social Demography**

Population size, growth, composition, and distribution; Components of population growth- births, deaths and migration; Causes and consequences of population growth; Population and social development; population policy; Moving houses and residential mobility;

## MODULE IV

**Building as a Consumer Good**

Social and built environment in an existing society; House form and the expression of social identity; Concept of vulnerability among the old; Housing decision and the community; Decision in home purchasing

## MODULE V

**Impact of Urbanisation and Economic Class Stratification**

Urbanization, rural-urban continuum, urban growth; Impact of urban growth on society and urban area; Social aspects of Housing; Territoriality and neighborhood; Impacts of socio-economic parameters on built form; Slum and Squatter settlements; Design for weaker sections.

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## MODULE VI

**Techniques of Data Collection and Socio-Economic Analysis**

Appreciating the contribution of social research; Data Collection: Participant and quasiparticipant observation; interview, questionnaire and sampling-size; Structuring the questioner; Analysis: scaling techniques-social distance; Interpreting results

## MODULE VII

**Environmental Psychology & Space Syntax Analysis**

Introduction, processes, principles and issues related to environmental psychology; Human spatial behavior and environmental stressors; Environmental designs – Assessing and planning, architectural psychology; Nature deficit disorder and green prescriptions; Introduction to Space syntax analysis; Techniques of integrating space syntax in social space analysis.

**Recommended Books:**

1. D. R. Sachdeva ; An Introduction to Sociology - Vidya Bhushan,; Kitab Mahal.
2. James C. Snyder, Anthony J. Catanese; Introduction to Architecture-; McGraw-Hill.
3. G.H.R. Tillotson – The tradition of Indian Architecture Continuity, Controversy – Change since 1850, Oxford University Press, Delhi, 1989.
4. Anthony D. King, Building and Society. Routledge Kegan & Paul, 1980.
5. Oscar Newman, Defensible Space; Macmillan Publishing,1976.
6. Amos Rapoport,; House Form and Culture, Milawaukee: University of Wisconsin,1969.
7. Edwars T hall; The Hidden Dimension; Anchor Books Editions;1990.
8. Bill Hillier, Julienne Hanson; Space Syntax;

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## EDUCATIONAL TOUR (TIUAR – 707)

**L – S – P (0 – 0 –0)**
**Credits-2**

1. Study of historic precincts/buildings, landscape and building interiors.
2. Documentation through mapping, hand-sketching, preparation of measured drawings and detailed-drawings, report writing and photography.
3. The tour would be for 7-10 days.

The students are required to prepare a report based on the Educational Tour, which will develop the skills and methods of report writing. This will be supported by presentations in sheets, drawings, sketches, photographs and in electronic media.
Report should include the following:

1. The duration of the trip, the itinerary, the places visited, the number of pupil and teachers accompanying them.
2. The specific places, the important monuments, their description, historic background, architectural styles, present status, structural systems, special or notable features and an architectural unbiased criticism.
3. The people, societal framework, economical status, density, traditions and culture of the place/region.
4. Environment, natural flora and fauna, and manmade interventions- urban scape and its specific features, problems.
5. Summary: New things learnt questions that remained unsolved, conclusion.

The measured drawing conducted during the tour, will be presented as well drafted drawings by the students. It should be hand drafted and rendered and all the methods for proper documentation of the structure measured will be considered in the presentation.
This will follow a seminar, where the students will present their work verbally.

**Viva voce**
Final Viva-vice on all the design assignments to be conducted at the end of the semester

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## ARCHITECTURAL DESIGN (TIUAR – 708) L – S – P (0 – 12 –0)

**Credits-10**

**Objectives:**

- Application of Design theory and principles and
- Design of Low rise / medium rise /high rise buildings with complex issues to be tackled covering functional relationship, climatic condition, social aspects along with structural considerations and building services
- Application and use of relevant building bye-laws and provisions of **National Building Code**
- Estimation of areas and approximate cost

**Main Design Exercise**

1. General or Specialist Hospital
2. Group Housing Project
3. Multiplex

**Design (Time) Exercise Duration**

- Nursing home
- Multiopurpose hall

**Viva voce**

Final Viva-vice on all the design assignments to be conducted at the end of the semester

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## INTERIOR DESIGN PRACTICE (TIUAR – 709) L – S – P (0 – 6 –0)

**Credits-4**

### Course Objectives

- To know the definition, scope and necessity of Interior design
- Understanding the parameters related to qualitative aspects of space.
- To study Space organization and alteration of interior space.
- Study of devices used for manipulation of the interior space as texture, pattern, colour, light, paintings, sculptures and their psychological effects in interior
- To know different surface treatments in interiors, e.g. on walls, floors, ceilings etc.
- Understanding of various materials used in Interiors (from traditional to latest) along with its technology of application and specification
- Awareness will be given regarding various technical aspects, practical difficulties, onsite decisions which will strengthen the knowledge for handling and executing a project of interior design.
- Assimilation of various aspects of space interior such as advanced services, acoustics, illuminations and developing the skills to design functional and meaningful interior space to meet the expected ambience.

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### Theoretical Input:

- Elements of Interior Design. Transformation of design elements. Optical illusion. Study of geometric patterns.
- Enveloping space, contained space and residual spaces, Spaces within space.
- Principles of lines; wall composition guidelines.
- Colour for interiors: hue, chroma and tonal values, Effect of light on colour, various colour schemes like analogues, complementary, triadic etc. Colour symbolism. Colour planning process.
- Interior lighting: direct and indirect lighting, location and light grid systems, luminaire types, quality of lighting. Ambient, task and accent lighting.
- Various systems of Air Conditioning.
- Furniture design. Modular approach in system furnishings. Selection and design of accessories.
- Principles of interior landscaping, texture, height grouping and layout. Plant species specifications.
- Open office system, Industrial interiors and specialized interior space design. Styles of Interiors: Italian, English, French, Japanese styles etc.
- Exposure to eminent interior designers works.
- Presentation of interior design schemes with detail specification for the materials and technology used.

### Sessional Input:

- Interior Design of Minimum two projects must be undertaken: Interior designs for homes, offices, factories, library, hospitals, hotels, shopping malls, showrooms, Hotel lobbies, Banquet halls, cinema and exhibition halls.
  - Exercises to be taken to demonstrate:

1. multiple interrelated activity spaces designed for functional and ergonomic

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efficiency and ambience and

2. role of building materials, furnishings, furniture, illumination, services, fixtures, hardware, plants and the cost of the proposed design work etc in Interior design;

- Site visits and workshops, guest-lectures, seminars to be organized including professionals, consultants, and skilled artisans etc. from various coordination fields from interior design.
  - The student shall submit the reports on various lectures, site visits etc

**Recommended Books:**

1. Interior Design in the 20th Century by Allen Tate, C.Ray
2. Interior Graphic & Design Standards by S.C.Reznikoff.
3. Beginnings of Interior Environment by Phyllis Sloan, Allen & Miriam F. Stimpson (10th edition).
4. Interior Design, John F. Harry Abrams Inc.
5. Interior Design Course, Mary Gilliat Coyran, Octopus Ltd. London
6. Interior Design, Francis D. K. Ching, John Wiley & Sons, New York
7. Time Savers Standard for Interior Design, Joseph De Chiara, McGraw Hill New York
8. Archi World.Interior Best Collection: Residence, Commerce, Office, Restaurant Asia I-IV.Archi World Co., Korea, 2003.
9. Friedmann, Arnold and Others. Interior Design: An Int. to Architectural Interiors. Elsevier,New York, 1979.
10. Miller, E. William.Basic Drafting for Interior Designers. Van Nostrand Reinhold, NewYork, 1981.
11. Kurtich, John and Eakin, Garret. Interior Architecture, Van Nostrand Reinhold, NewYork, 1993.
12. Rao, M. Pratap. Interior Design: Principles and Practice, 3rd ed. Standard Pub., 2004.
13. **Magazines and Journals to be referred pertaining to the subject**