

## FOURTH YEAR EIGHTH SEMESTER

### 1. Architectural Design – VIII (Code – 210801)

#### Objectives –

The course aims to obtain knowledge of fundamental concepts and theories of Housing and apply them in their design projects, various types of Housing and its components, the vocabulary of urban design, its components. And utilizing it in design.

S.No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/Assignment	End Sem.	Lab work & Sessional						
1.	210801	Architectural Design –VIII	DC - 17	-	-	-	150	100	250	8	-	-	8(1.5)	12

#### PROJECT I: HOUSING

The various types of housing projects in a typical urban scenario can be taken with suitable design parameters that get established after conducting a rigorous study. Analysis of existing design trends & user preferences need to be ascertained. Awareness about special building byelaws applicable for Group housing schemes is essential. In addition to design issues such as security, accessibility, identity, social interaction, comfort, economy etc. that would be investigated. The application of Fractals in design can also be explored. Ex. Housing for the poor /Slum dwellers, Multi-storied apartments for Govt. / corporate employees, Multi-storied condominiums for the rich etc.

#### PROJECT II: URBAN DESIGN OR CONSERVATION

Urban design projects could deal with redevelopment of problem areas such as riverfronts, beach fronts, market areas, bazaars or commercial & residential districts that have reached dead end situation. It could also deal with emerging nodes of transportation with its surrounding areas, the design of city level open spaces such as parks, plazas etc. Alternatively, conservation strategies for heritage areas along with revitalization techniques can also be attempted. The projects thus undertaken as group work will have to ultimately contribute ideas for the improvement of the quality of the urban environment.

**OUTCOME:** After completion of this course the student will be able to:

<b>CO1</b>	<b>Formulate</b> an intellectual position, explored through architectural design, which reconciles the development of a critical brief with spatial and functional criteria.
<b>CO2</b>	<b>Conceptualize</b> a brief for a design project, which, through engagement with a series of contexts, seeks to provide a critique of the built environment by proposing alternative spatial, formal, organizational or material solutions.
<b>CO3</b>	<b>Synthesize</b> a design solution, which combines appropriate architectural expression, cultural response and the fulfillment of the functional requirements of a brief.
<b>CO4</b>	<b>Produce</b> appropriate drawings, models and other media of an architectural design which explore, test and express its qualities of space, form, organization and response to physical and other contexts.
<b>CO5</b>	<b>Integrate</b> appropriate technologies concerning structure, materiality and services into the design proposal.
<b>CO6</b>	<b>Effectively</b> communicate the design or designs through an exhibition incorporating drawings, models, texts and other appropriate media.

#### REFERENCES:

1. Time saver standards for building types, DeChiara and Callender, McGraw hill company
2. Neufert Architect's data, Bousmaha Baiche& Nicholas Walliman, Blackwell science ltd
3. National Building Code - ISI
4. New Metric Handbook – Patricia Tutt and David Adler – The Architectural Press
5. Time saver standards for landscape architecture – Charles W.Harris – McGraw Hill

## 2. Urban Design (Code – 210802)

### Objective –

The course aims to prepare the students to develop a holistic view of the city as a basis for designing the city/city components in the third dimension.

S.No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
2.	210802	Urban Design	DC - 18	50	30	20	20	30	150	5	2	1	2	4

### UNIT- 1 INTRODUCTION

Emergence of urban design as a discipline, need for urban design, Elements of urban design(buildings, streets, public spaces, transports, other elements etc. Principles of urban design- creating form and spatial definition in articulation of urban design expression.

### UNIT- 2 STUDY AND ANALYSIS OF URBAN SPACES IN HISTORY AND MODERN CONCEPTS IN

**URBAN DESIGN 15** A brief study and analysis of urban spaces in history-in the west(Greek, Roman, Medieval and Renaissance towns)and the east(in India-Vedic towns, temple towns, medieval and Islamic towns). Modern concepts in urban design. Study of Urban design theories of Gordon Cullen and Kevin Lynch. Relevance of historic concepts of urban design in the present context-Critical analysis of Indian cities & understanding the urban design projects of Singapore, China & United States.

### UNIT- 3 BASIC PRINCIPLES & TECHNIQUES IN URBAN DESIGN

Components in urban design composition. Urban scale, mass and space, definition of urban fabric, visual surveys and their influence for urban design, various methods of conducting a visual survey. Definition and purpose of open spaces and their hierarchy in urban design-hierarchy of utility spaces for residential, commercial, recreational and industrial use. Special focus on streets-Expressive quality of built forms, spaces in public domain.

### UNIT- 4 RENEWAL, RE-DEVELOPEMENT AND FORMULATING URBAN DESIGN

Definition and need for urban renewal and re-development, scope for urban renewal in India challenges and implementation methods of urban renewal for Indian historic towns and cities, impact of public participation. Analysis and formulation of urban design guidelines for new developments. National and international case studies for urban renewal.

### UNIT- 5 URBAN DESIGN SURVEY AND PRESENTATION

Conducting an urban design survey of Conservation of historic cities, open-spaces, development of market spaces, transit oriented developments, water front development in India. Analysis of data. Formulating urban design guidelines for an area-practical problem solving, understanding various presentation techniques for urban design presentations.

**COURSE OUTCOME:**

After completion of this course, the student will be able to

<b>CO1</b>	<b>Know</b> about the urban forms and spaces.
<b>CO2</b>	<b>Understand</b> the urban design issues at the city level.
<b>CO3</b>	<b>Analyze</b> the difference between the history and the contemporary needs.
<b>CO4</b>	<b>Develop</b> the strategies that are commonly required to overcome the urban issues.
<b>CO5</b>	<b>Develop</b> understanding and strategies towards the society. They will be conversant with the problems in community living and how to address the same.

**REFERENCES:**

1. The Concise townscape- Gordon Cullen, The Architectural press
2. Image of the city - Kevin Lynch
3. Architecture of town and cities - Paul D. Speriregon, The MIT press
4. Urban design – Ornament and decoration , Cliff Moughtin, Bath Press
5. Urban design – street and square, Cliff Moughtin, Bath Press
6. Town and square - Paul Zucker
7. The urban pattern - Arthur B Gallion, CBS publishers
8. Architecture and the urban experience - Raymond J Curran. Van Nostrand Reinhold Company
9. Indian city in the arid West - KulbashanJain , Aadi Centre
10. Indian mega city and economic reforms - A.K.Jain, Management publishing Company

### 3. Professional Practice & Ethics(Code – 210803)

#### Objective –

The course aims to obtain understanding of the moral values that ought to guide the Engineering profession, and to resolve the moral issues in the profession, and to justify the moral judgment concerning the profession.

S.No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/Assignment	End Sem.	Lab work & Sessional						
3.	210803	Professional Practice & Ethics	PAE C- 5	50	30	20	-	-	100	3	2	1	-	3

#### UNIT- 1 THE PROFESSIONAL ROLE OF AN ARCHITECT & SERVICES RENDERED

Architect's role in society, IIA code of conduct, salient features of architect's act 1972, the council of architecture – Architect's office and its management, elementary accountancy required for the same etc. Architectural services- conditions of agreement- scope of work, comprehensive architectural services and architectural competitions, conditions of engagement, remuneration, professional fees and charges as per IIA norms, - copy rights of drawings.

#### UNIT- 2 ARCHITECTURAL COMPETITIONS & LEGISLATIONS

Regulations governing the conduct of competitions, Types of competition (open & closed competitions), appointment & duties of Assessors, instructions to participants, award of premium. Role of development authorities & urban arts commissions, salient features of the DCR for CMA, important regulations in the Tamilnadu cinema rules 1973 & the TN factory rules 1950, Environmental acts & laws, special rules governing hill area development & coastal area management, Heritage act of India etc.

#### UNIT- 3 EASEMENTS& ARBITRATION

Easement Rights –Definition, characteristics of an easement, Natural Rights ,Various easement rights- Easement of support, Easement of light and air, Easement of right of way, Easement of eave projection, etc . Continuous and Discontinuous easements, extinction of easements, Modes of acquiring easement rights – Need for Arbitration, arbitration agreement, role of arbitrators, umpire etc, excepted matters, arbitral award.

#### UNIT- 4 TENDER & CONTRACT

Calling for Tenders, tender documents, open & closed tenders, various types such as item rate, lump sum, labour & demolition tenders, conditions of tender, submission, scrutiny, recommendations & award of contract. Conditions of contract, IIA form of contract, articles of agreement, certification of contractor's bills, defects liability. Earnest money deposit, security money deposit etc

#### UNIT- 5 VALUATION& RENT

Valuation – purpose of valuation, types of valuation- book value – salvage value- scrap value depreciation- obsolescence- sinking fund- land valuation ,building valuation- mortgage and lease- Annuity- definition, Fixation of rent- out going- gross and net income – year's purchase- capital cost standard rent- market rent- economical rent.

#### COURSE OUTCOME:

After completion of this course the student will be able to:

CO1	Identify the principal legislative, technical and professional factors influencing the design strategy of a building project.
CO2	Describe the components and organizational structures and their interrelationships.
CO3	Define the issues that an architect will consider with reference to building contract law
CO4	Determine the factors effecting cost
CO5	Explain the procedures to be followed for compliance with planning and building control regulations.

**REFERENCES:**

1. Hand book on Professional Practice by I. I. A, Image systems, Mumbai,1998.
2. Estimating and Costing by Dutta
3. CMDA-Development control rules for CMA.
4. TN cinematograph manual, govt central press, Chennai,1998.
5. Environmental Acts of the Ministry of Environment & forests, GoI.

#### 4. Dissertation(Code – 210804)

##### Objective –

The course aims to obtain understanding of standards and conventions of doing dissertation. , to provide preliminary background information that puts the research in context and to clarify the focus of the study. The subject points out the value of research.

S.No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
4.	210804	Dissertation	PAEC-6	-	-	-	20	30	50	4	-	-	4	2

##### UNIT-1

First phase of dissertation allows students to identify the broad area / field of Architecture of their interest in which they may intend to do the research. This is to be done by studying and reproducing the brief of technical papers in the form of report review.

##### UNIT-2

Second phase allows the students to do the study of sample example of research already done by choosing the specific aspect / area relevant to broader field they have selected in first phase. This exercise involves the writing of report / review of book / journal dedicated to that specific aspect or area. This review writing is aimed to understand the method of collecting data (survey methods), analysis of data (statistics and mathematical formulas), drawing inferences and conclusion as attempted by the author of the book.

##### UNIT-3

Third phase is the writing of detailed dissertation report. Students are expected to choose their own topic of research by referring the area / field already identified in other two phases.

NOTE: Sessionals will be submitted in the form of review reports and Dissertation report.

##### COURSE OUTCOME:

After completion of this course the student will be able to:

<b>CO1</b>	Understand the fundamentals of Research methods before attempting final year Project Thesis.
<b>CO2</b>	Study and develop basic research principles and research methods.
<b>CO3</b>	Develop a sustained and coherent argument on an agreed topic, supported by both secondary and primary sources
<b>CO4</b>	Communicate the result of a systematic programme of research with clear identification of the topic, research issues, the context and the theoretical perspectives.
<b>CO5</b>	Evaluate significant information sources referred to and draw coherent conclusions relevant to the topic and issues initially identified, from the observations, evidence and arguments presented.
<b>CO6</b>	Develop the skill of report writing. Prepare a Dissertation report

##### LIST OF TEXT AND REFERENCE BOOKS:

- Instruction Manuals on report writing

## 5. Disaster management – 100007

**OBJECTIVE** -The objective of the subject is to introduce the students about reduce or avoid the potential losses from hazards, assure prompt and appropriate assistance to the victims of a disaster, and achieve a rapid and effective recovery.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
5	100007	Disaster management (MC)	MC-4	70	20	10	-	-	100	3	2	1	-	3

### UNIT- 1 NATURAL HAZARDS AND DISASTER MANAGEMENT

Understanding the Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity – Disaster and Development, Disaster management and Disaster Management cycle Understanding the Causes and effects of natural calamities - floods, tropical cyclones, landslides, heat waves & Tsunami. Institutional and Financial Mechanism National Policy on Disaster Management, National Guidelines and Plans on Disaster Management; Role of Government (local, state and national), Non-Government and Inter-Governmental Agencies

### UNIT- 2 ELEMENTARY SEISMOLOGY

Major Historic Earthquakes in the World, earthquake hazard map of India, Causes of Earthquakes: Elastic Rebound theory, Continental Drift and Plate Tectonics, Types of Plate Boundaries, types Of faults, seismic waves – classification of body waves and surface waves, magnitude, intensity, epicenter and energy release, Terminologies and Definitions and types of earthquake based on location, size and focal depth characteristics of strong earthquake ground motions, Flexibility of long & short period structures; concepts of response spectrum, Seismological Instruments: Seismograph and Accelerograph, Introduction to Seismic zones, Need for Seismic Zonation, Types of Zonation and Seismic zonation scales

### UNIT- 3 LESSONS LEARNT FROM PAST EARTHQUAKES & SEISMIC DESIGN PRINCIPLES

Earthquake Effects:- On ground, soil rupture, liquefaction and landslides, Behaviors of various types of buildings, lifelines and collapse patterns, Behavior of Non Structural Elements like services, fixtures, mountings etc., Social & Economic Consequences of earthquakes  
 Concept of seismic design, stiffness, strength, period, ductility, damping, hysteric energy dissipation, center of mass, center of rigidity, torsion, design eccentricities, Seismic effects related to building configuration. Plan & vertical irregularities, Special Aspects: - Torsion, appendages, staircases, adjacency, pounding. Ductility based design: Design of energy absorbing devices, Seismic base isolation and seismic active control.

### UNIT- 4 EARTHQUAKE RESISTANT CONSTRUCTION DETAILS

Various Types and construction details of Foundations, soil stabilization, retaining walls, plinth fill, flooring, walls, openings, roofs, terraces, parapets, boundary walls, underground and overhead tanks, staircases and isolation of structures. Local practices: traditional regional responses.

### UNIT- 5 CASE STUDIES AND DESIGN GUIDELINES

Earthquakes at Bhuj, Latur, etc., Cyclones in coastal Andhra Pradesh & Orissa, Landslides in Nilgiris, Himachal etc, Floods in Bangladesh, and Droughts in Rajasthan & Tsunami in Tamil Nadu. Design guidelines for disaster resistant construction at appropriate situations - Engineering, architectural, landscape & planning solutions for floods, tropical cyclones & Tsunami

**COURSE OUTCOME:**

After completion of this course the student will be able to:

<b>CO1</b>	Study the various seismic zones.
<b>CO2</b>	Understanding various terminologies like recovery, rehabilitation, response, mitigation and their execution.
<b>CO3</b>	Apply strategies and technology to overcome the harmful effects of disaster. Develop a design the disaster resistant structures.

**REFERENCES:**

1. Agarwal Pankaj, Shrikhande Manish , Earthquake Resistant Design Of Structures, Prentice-Hall of India, New Delhi, 2006
2. S. K. Duggal, Earthquake Resistant Design Of Structures, Oxford University Press, 2007
3. Publications of National Disaster Management Authority (NDMA) on Various Templates and Guidelines for Disaster Management
4. Guidelines For Reconstruction Of Houses Affected By Tsunami, UNDP India, & Government Of Tamil Nadu, 2004
5. Coppola D P, 2007. Introduction to International Disaster Management, Elsevier Science (B/H), London.
6. Manual on natural disaster management in India, M C Gupta, NIDM, New Delhi
7. Disaster Management Act 2005, Publisher by Govt. of India
8. SERC Guidelines for Design and Construction of buildings and structures in cyclone-prone areas, SERC, CSIR, Government of India, 1998,
9. IS 1893(Part 1):2002 'Criteria for Earthquake Resistant Design of Structures: Part 1 General provisions and Buildings'



## 6. Elective – VI

### Objective –

The course aims to obtain knowledge of the creation and evolution of objects, structures and systems at human scale that aim to improve the quality of life in the immediate living and working environment, while looking at sustainable and innovative use of diverse materials and processes. The course aims to obtain knowledge of how to plan, finance and manage urban areas. Structures supported by effective land markets, appropriate regulation, good public services, adequate public finance and transparent and accountable city level political systems.

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
6.	210816	Interior Architecture & Space Planning	DE-6	50	30	20	-	-	100	3	2	1	-	3

### INTERIOR ARCHITECTURE & SPACE PLANNING

#### Unit-1 Introduction to Interior Architectural Design

Definition of interior design, Interior architectural design process, vocabulary of design in terms of principles and elements, Introduction to the design of interior spaces as related to typologies and functions, themes and concepts - Study and design.

#### Unit-2 History of Interior Architectural Design

Brief study of the history of interior architectural design through the ages relating to historical context, design movements and ideas etc. Brief study of folk arts and crafts. (vernacular design in India) with reference to interior design and decoration.

#### Unit-3 Elements of Interior Architecture - Enclosing Elements

Introduction to various elements of interiors like floors, ceilings, walls, staircases, openings, interior service elements, incidental elements etc., and various methods of their treatment involving use of materials and methods of construction in order to obtain certain specific functional, aesthetic and psychological effects.

#### Unit-4 Elements of Interior Architecture – lighting accessories & interior landscaping

Study of interior lighting, different types of lighting their effects types of lighting fixtures. Other elements of interiors like accessories used for enhancement of interiors, paintings, objects-de-art, etc. Interior landscaping, elements like rocks, plants, water, flowers, fountains, paving, artifacts, etc. their physical properties, effects on spaces and design values.

#### Unit-5 Elements of Interior Architecture - Space Planning

Study of the relationship between furniture and spaces, human movements & furniture design as related to human comfort. Function, materials and methods of construction, changing trends and lifestyles, innovations and design ideas. Study on furniture for specific types of interiors like office furniture, children's furniture, residential furniture, display systems, etc. Design Projects on Residential, Commercial and Office Interiors.

#### COURSE OUTCOME:

After completion of this course the student will be able to :

CO1	Introduce the vocabulary of Anthropometry and furniture design.
CO2	Study various components of ergonomics adapted in furniture design.
CO3	Relate applied Ergonomics and furniture design with human environment.
CO4	Study components of Ergonomics and furniture design like design for special need, Biomechanics, Psychological aspects.
CO5	Design a product for specific purpose.

#### REFERENCES:

- Ching, F. D. K. (1987). Interior Design Illustrated. New York : V.N.R. Publications.
- Doshi, S. (Ed.) (1982). The Impulse to adorn - Studies in traditional Indian Architecture. Marg Publications.
- De Chiara and Callender - Time Savers Standards for Building Types
- De Chiara and Callender - Time Savers Standards for Architectural data
- Kathryn, B. H. and Marcus, G. H. (1993). Landmarks of twentieth Century Design. Abbey Ville Press.
- Penero, J. and Zelnik, M. (1979). Human Dimension and Interior space: A Source Book of Design Reference Standards. New York : Whitney Library of Design.
- Slesin, S. and Ceiff, S. (1990). Indian Style. New York : Clarkson N. Potter. 6. Dorothy, S-D., Kness, D. M., Logan, K. C. and Laura, S. (1983). Introduction to Interior Design. Michigan : Macmillan Publishing.

## ii) Sustainable interventions in historic Buildings

Objective –

The course aims to obtain knowledge of the creation and evolution of Architectural Conservation in India as well as in western world. It aims to explore the methods of Documentation as well as analysis for Intervention. This course aims to develop an overall understanding of the process of Historic conservation and Preservation.

S.No.	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HRS.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/Assignment	End Sem.	Lab work & Sessional						
4.	210814	Sustainable interventions in historic Buildings	DE-6	50	30	20	-	-	100	3	2	1	-	3

### SUSTAINABLE INTERVENTIONS IN HISTORIC BUILDINGS

#### UNIT-1 INTRODUCTION TO HISTORIC BUILDINGS

- Definition of Historic Buildings.
- Definition of Heritage.
- Why Intervention? Justification.
- Concepts of Values, Significance, Authenticity and Integrity.
- Conservation. Ethics in Conservation.

#### UNIT-2 RESEARCH IN INTERVENTIONS & CRITICAL ANALYSIS OF HERITAGE COMPONENTS

- Importance of Research in Heritage Conservation.
- Sources of information like books, archival photographs and maps, folklores, mythology, oral tradition and memories.
- Understanding the Scales of various heritage components: Buildings, Areas, and Towns, Region (Local, National, and International).

#### UNIT-3 DOCUMENTATION & DEGREES OF INTERVENTION IN HISTORIC BUILDINGS AND MONUMENTS

- Introduction to Heritage Database and Surveys for conservation
- Listing and Inventories
- Measured Drawing: Techniques of Measurement, Drawing and Presentation
- Photographic Documentation
- Degrees - Prevention of deterioration, Preservation of the existing state, Consolidation of the fabric, Restoration, Rehabilitation, Reproduction, Reconstruction

#### UNIT-4 DECAY AND REMEDIES

- Introduction to Decay in Cultural property, Materials and Structural failures
- Internal and External environment of historic buildings
- Climatic causes of decay
- Botanical, biological and microbiological causes of decay
- Insects and other pests as causes of decay
- Man-made causes of decay

#### UNIT-5 WHAT IS SUSTAINABLE INTERVENTIONS & DESIGNING IN HISTORIC CONTEXT

- Sustainable Interventions & its steps.
- Concepts of: - Imitation, Inspiration, Innovation, Influence, Evolution, New Design.

#### COURSE OUTCOME:

After completion of this course student will be able to-

CO1	Understand the basic terminology of the subject.
CO2	Identify the stylistic characteristics of architecture, theories and importance of research
CO3	Understand the documentation techniques and degrees of intervention
CO4	Understand types of Decay in a building and their remedies.
CO5	Apply the knowledge for designing in Historic Context.

**REFERENCES:**

1. Kenneth Frampton, *Modern Architecture: A Critical History*, Thames and Hudson, London.
2. Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition*, Harvard University Press.
3. Tzonis Alexander, Santiago Calatrava, *International Publications*, January 2005, New York.
4. Steele James, Hassan Fathy - *The Complete Works*, London: Thames and Hudson.
5. *Conservation of Historic Buildings* by Fielden, Bernard, 2003, Architectural Press.
6. *Guidelines for Conservation* by Fielden, Bernard, 1989, INTACH, New Delhi.
7. *Historic England, Practical Building Conservation: Conservation Basics*, 2013, Routledge.
8. *Contemporary Theory of Conservation* by Salvador Muñoz-Vinas, 2005, Elsevier.
9. *Recording, Documentation, and Information Management for the Conservation of Heritage Places - Guiding Principles* by Letellier, Robin, 2007, Getty Conservation Institute. Los Angeles.

7. Seminar / Workshop/ Training during previous winter break will be evaluated

S.No	Subject Code	Subject Name	Category	Maximum Marks Allotted					Total Marks	CT HR S.	Contact Periods per week			Total Credits
				Theory Slot			Practical Slot				L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional						
7.	210806	Tour/ seminar / NASA/Workshop/Training during winter break	SEC- 10	-	-	-	50	-	50	2	-	-	2	1