

**K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**  
**Architectural Design-VII**  
**(AR-402)**

<b>Uni. Exam. Marks</b>	-	<b>100</b>
<b>Sessional / Class test Marks</b>	-	<b>100</b>
<b>Duration of Exam.</b>	-	<b>7 hrs</b>
<b>Contact Hrs / week</b>	-	<b>7</b>

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**Intent:**

To promote team work among students for designing large, urban scale projects with the emphasis on development regulations.

**Content:**

1. Design of Multi Storied High Rise Group Housing / Apartments project.
2. Design a Layout of Commercial mix use developments like District Centre taking into consideration of services, site planning, traffic and circulation. Design of transportation building, Bus / Truck Terminus in the same District Centre. Sensitivity to the use of materials, lighting, landscape and structural systems, should be the part of the solution.

**Seminar:**

Seminar intended to provide an opportunity to the students to prepare the basic design data and information for taking up a thesis project in the 10<sup>th</sup> semester. The topic may be related to the field of dissertation or any design research oriented topics such as, futuristic forms of Architecture, smart/intelligent buildings, energy conservation environmental design projects etc.

**Instructions for the Examiner:**

Two questions are to be set from the entire syllabus and the student has to attempt any one of these. The topic of the problem to be introduced 7 days in advance, by displaying it on the department's notice board, for the students to do the literature and case study.

**Note:**

During examination, Lunch / Tea break of half an hour is allowed extra to the 7 hrs duration.

**References:**

- Time Saver Standards, Chaiara J. D and Callender J.H.
- Planning and Urban Design Standards, Wiley.
- Site Planning Standards, Chaiara J. D
- Planning and Architecture, Sharp. D. Ed
- Design in Architecture: Architecture and the Human Sciences, Geoffery, B., John Willy& Sons, New York.

## **K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**

### **Housing (AR-404)**

<b>Uni. Exam. Marks</b>	- 50
<b>Sessional / Class test Marks</b>	- 50
<b>Duration of Exam.</b>	- 3 hrs
<b>Contact Hrs / week</b>	- 3

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#### **Intent:**

To make the students understand various aspects, issues and considerations affecting housing process and design.

#### **Content:**

##### **UNIT-I**

- Introduction: Definition of housing, overview of various aspects related to the problems and issues of housing.
- Role of an Architect in creating a good living environment.

##### **UNIT-II**

- Built form, socio-psychological and aesthetic implications and suitability of different types of dwellings.

##### **UNIT-III**

- Criteria for site selection and housing layout considerations.
- Energy-efficient housing, Cost effective housing.

##### **UNIT-IV**

- Introduction to the National Housing Policy.

#### **Instructions for the Examiner:**

Two questions of 10 marks each are to be set from each Unit and the students are to attempt any five questions with a minimum of one from each unit.

#### **References:**

- Greater London Council: An Introduction to housing layouts, H.M.S.O., 1978
- Housing, Macsai John, John Wiley and Sons, New York, 1982.
- Population and Housing problems in India, Vol. I & II, Maurya S.D., 1989, Chugh Publication, Allahabad.
- The Social impact of housing goals standards 1977 U.N. New York

**K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**  
**Advanced Services (H.V.A.C.)**  
**(AR-406)**

<b>Uni. Exam. Marks</b>	-	<b>50</b>
<b>Sessional / Class test Marks</b>	-	<b>50</b>
<b>Duration of Exam.</b>	-	<b>3 hrs</b>
<b>Contact Hrs / week</b>	-	<b>3</b>

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**Intent:**

To appreciate how buildings can be made more comfortable by adding mechanical systems like artificial ventilation, air conditioning and automation.

**Content:**

**UNIT I**

Natural and Mechanical Ventilation for modern buildings; Estimation of ventilation requirements, Schemes and Equipments required for ventilating spaces like industrial kitchens, underground garages and multistoried buildings.

**UNIT II**

Theory, Principles and Methods of Air conditioning  
Types of Air conditioning

**UNIT III**

Introduction to the calculation of Heat Load  
Architectural considerations for Air conditioned buildings.

**UNIT IV**

Introduction to the Intelligent Buildings in the context of H.V.A.C.

**Instructions for the Examiner:**

Two questions of 10 marks each are to be set from each Unit and the students are to attempt any five questions with a minimum of one from each unit.

**References:**

- ABC's of air conditioning , Ernest Tricomi
- Handbook on Functional Requirements of Buildings other than Industrial Buildings, B.I.S.
- Modern Air-Conditioning, Heating and Ventilation, Carrer and Pitman, G.
- Air Conditioning and Ventilation, Servems and Fellows, John Wiley.

**K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**  
**Research Skills and Project Introduction**  
**(AR-408)**

<b>Uni. Exam. Marks</b>	- -
<b>Sessional / Class test Marks</b>	- 100
<b>Duration of Exam.</b>	- hrs
<b>Contact Hrs / week</b>	- 2

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**Intent:**

To acquaint the students with the process of research and its potential in the field of architecture.

**Content:**

**UNIT-I**

- Research in architecture-its nature, purpose & scope.
- Basic and applied research
- Technical and behavioral-oriented research.

**UNIT-II**

- Science and scientific method-various steps in scientific method: hypothesis, research design, data collection & analysis, conclusions and implications with special reference to architectural research.

**UNIT-III**

- Methods of conducting research.
- Selection of topic, and its relevance.
- Identification and formulation of problem.
- Compiling and analyzing existing research database

**UNIT-IV**

- Research design, research instruments and analysis.
- Presentation of result
- Evaluation of findings, conclusions and recommendations.
- Techniques of research-report writing.

**References:**

- Research Design: Qualitative & Quantitative Approaches, Creswell, J. W., 1994 Thousand Oaks : Sage
- Architectural Research Methods, Groat, L. & Wang, D., 2002, NY : John Wiley and Sons Inc.

- Research Methodology : Methods and Techniques By Kothari, C.R., 2005, New Delhi : Wishwa Prakashan
- Handbook of Qualitative Research, Norman K Denzin and Yvonna S Lincoln (Eds.), 1994, Thousand Oaks : Sage Publications
- Visual research methods in design, Sanoff, H, 1991, USA : Van Nostrand Reinhold
- Behavioral Methods in Environmental Design, William Michelson (ed.), 1982, Stroudsburg, Pennsylvania: Dowden Hutchinson and Ross. Inc.

**K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**  
**Fire Protection & Security Systems**  
**(AR-410)**

<b>Uni. Exam. Marks</b>	- 50
<b>Sessional / Class test Marks</b>	- 50
<b>Duration of Exam.</b>	- 3 hrs
<b>Contact Hrs / week</b>	- 3

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**Intent:**

The objective of this course is to expose the students about present trends of fire protection and security systems.

**Content:**

**UNIT-I**

**Introduction:**

Basic fire properties of materials i.e. ignitability, combustibility, surface spread of flame, fire propagation, toxicity, etc.

Basic fire properties of materials, imparting fire retardance, combination of fire retardance material and non combustible materials, etc.

**UNIT-II**

**Active Fire Protection:**

Understanding of Active Fire protection; Manual Alarm System, Basic understanding of Heat Detectors, Smoke Detectors & Flame Detectors; Fire Fighting Equipments, Sprinkler Systems, Hydrant Systems, Water requirements for Wet Fire Fighting systems, special protected areas like basements & high rise buildings.

**UNIT-III**

**Provisions of NBC:**

Code for Fire Safety prescribed in National Building Code

**UNIT-IV**

**Security systems:**

CCTV cameras, Burglar alarms, PA system, Monitoring cells, Access control, etc.

## Instructions for the Examiner:

Two questions of 10 marks each are to be set from each Unit and the students are to attempt any five questions with a minimum of one from each unit.

## References:

- Jenson, D., Ed., Fire Protection for the Design Professional.
- Industrial fire Hazard Hand Book
- National Building Code, Latest Edition, Bureau of Indian Standard, New Delhi.
- BIS CODES: 2189, 2190, 8096, 928, 957, 3614, 2175, 931, 494, 2171, 6382, 5896, 6070, 3844, 1648, 1646, 1526, 5495

## **K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM** **General specifications and Finishes** **(AR-412)**

<b>Uni. Exam. Marks</b>	-	<b>50</b>
<b>Sessional / Class test Marks</b>	-	<b>50</b>
<b>Duration of Exam.</b>	-	<b>3 hrs</b>
<b>Contact Hrs / week</b>	-	<b>3</b>

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## Intent:

To develop the understanding of specifications and finishes.

## Content:

### **UNIT-I**

#### **Specifications:**

Study and use of standard specifications, their language; Methods of writing form and sequence of clauses  
General and special clauses

### **UNIT-II**

Specifications of common building materials and simple construction, as separate documents or annotated on the working drawings.

Specifications for special finishes, advanced materials and different construction elements

### **UNIT-III**

#### **Finishes:**

Special finishes like aluminum, anti- corrosive and water bound paints

Distempers, cement paints, lacquers, polishes and staining varnishes; Water proofing compounds and proprietary materials.

### **UNIT-IV**

Materials: Aluminum, plastics, glass and different alloys and their applications in the building industry.

Recent developments in timber and concrete building materials

Different paving and facing materials

Acoustical and fiber boards

Influence of the above materials and their methods of construction on modern architectural design.

## Instructions for the Examiner:

Two questions of 10 marks each are to be set from each Unit and the students are to attempt any five questions with a minimum of one from each unit.

## References:

- Practical Specification Writing for Architects and Surveyors, Bowyer, J.
- The Committee of Design Aids, Building Specification \_CSIR Handbook, based upon 1977 ACI Building Code and the 1980 Supplement.
- Building specification, Harrison, D. Ed.
- BMTPC, Standard Specifications for Cost Effective Innovative Building Materials and Techniques.

## **K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.** **Elective – Town Planning Design** **(AR-414)**

<b>Uni. Exam. Marks</b>	-	<b>50</b>
<b>Sessional / Class test Marks</b>	-	<b>50</b>
<b>Duration of Exam.</b>	-	<b>3 hrs</b>
<b>Contact Hrs / week</b>	-	<b>3</b>

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## Intent:

To study the socio-economic and demographic characteristics of villages, town and cities, their present growth trends and future needs.

## Content:

### **UNIT-I**

- Overview of evolution of settlement design from the river Valley to pre-industrial (17<sup>th</sup> century) towns with emphasis on the factors that influenced Town Planning principles and theories.
- Classifications of settlements based on form, use, Scale, etc.

### **UNIT-II**

- Role and contribution of the following towards contemporary town planning thought: Patrick Geddes, Daniel Burnham, Frederick Olmstead, Ebenezer Howard, Le Corbusier, Christopher Charles Benninger.

### **UNIT-III**

- Town Planning Policies in India from the 18<sup>th</sup> century till present day.
- Issues and strategies of Urban renewal of existing and historical town-need for renewal, problems involved in urban renewal schemes.

### **UNIT-IV**

- Slum up-gradation Schemes like BSUP (Basic Services to Urban Poor) and IHSDP (Integrated Housing & Slum Development Programme) under JNNURM (Jawaharlal Nehru National Urban Renewal Mission), a flagship scheme of Indian Government to address the issues of Urban Infrastructure, Housing and Basic Amenities to the Urban Poor, launched in 2005.

### Instructions for the Examiner:

Two questions of 10 marks each to be set from each unit and the students are to attempt any five questions with a minimum of one from each unit.

### References:

- Planning by Patrick Geddes
- Fundamentals in Town Planning by G. K. Hiraskar.
- Principles and Practice of Town and Country Planning, Kebble.
- Urban and Regional Planning- A system Approach, Meloughin, J.B.
- The Urban Pattern - City Planning and Design, Arthur B. Gallion, Simon Eisner, CBS

## **K.U.K., B. ARCHITECTURE-VIII<sup>th</sup> SEM.**

### **Elective - Modern Trends in Indian Architecture**

**(AR-416)**

<b>Uni. Exam. Marks</b>	-	<b>50</b>
<b>Sessional / Class test Marks</b>	-	<b>50</b>
<b>Duration of Exam.</b>	-	<b>3 hrs</b>
<b>Contact Hrs / week</b>	-	<b>3</b>

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### Intent:

To acquaint the students with the development of modern trends in Indian architecture from the post independence era to the present times.

### Content:

#### **UNIT-I**

- Introduction to modern architecture in India.
- Brief survey of early post independence development of architecture.

#### **UNIT-II**

- Architecture of Chandigarh: a trend setter.
- Philosophy and contributions of eminent architects such as Le Corbusier (Chandigarh Capitol Complex) and Louis Kahn (I.I.M., Ahmedabad).

#### **UNIT-III**

- Modern trends in building materials and construction techniques.



- Modern trends in regional vernacular styles and cultural identity.

#### **UNIT-IV**

- Typical works of a few eminent Indian Architects like A. P. Kanvinde, B. V. Doshi, Raj Rewal, Charles Correa and J. A. Stein.
- Critical review of ongoing modern trends and its future prospects in Indian Architecture.

#### **Instructions for the Examiner:**

Two questions of 10 marks each to be set from each unit and the students are to attempt any five questions with a minimum of one from each unit.

#### **References:**

- The Language of Post Modern Architecture, Jencks, C.
- Modern Architecture since 1900, Curtis, W.J.
- Contemporary Architecture: After the Masters, Bhatt and Scriver, P.
- Intentions in Architecture, Norberg Schulz C
- Modern Traditions – Contemporary Architecture in India, Klaus-Peter Gast
- The Architecture of Independence: The search for Identity-India 1880-1980, Jon T. Lang.