

Syllabus for PhD Entrance Test
Faculty of Architecture and Planning
Integral University, Lucknow

ARCHITECTURE

1.1. ARCHITECTURAL PLANNING AND DESIGN

Architectural Theory and Aesthetics: Basic concepts of design, form space, aesthetics, isms in architecture. Architectural history, heritage and conservation – Architectural history of Europe and Indian sub-continent, regional architecture of India, modern movement, contemporary architecture across the world. Steps in architectural conservation. Site Planning, Landscape and Urban design – Principles of landscape design and site planning, landscape elements and materials, environmental considerations in landscape planning. Significance of urban design, process of urban design, imageability, universal design, aesthetics, behavioral aspects.

1.2. ENVIRONMENTAL STUDIES

Man-Environment relationship, Resource depletion, pollution, resource management, biogeochemical cycles, urban ecology, global warming, climate change, Urban environmental issues, solid waste management, water conservation., Climatic considerations, building climatology, indoor environmental quality, Environmental Impact Assessment – Social, economic and ecological. Techniques and tools. Energy efficiency and Green Building Technology – Norms, standards, rating and evaluation. Disaster Management – Natural and manmade disasters, disaster risk management, planning and design responses.

1.3. BUILDING SCIENCE & TECHNOLOGY Construction Technology & Materials

Structural design methods and techniques, seismic design considerations, long span structures, high rise construction, pre-fabricated construction, tensile construction, green building materials, properties and applications of various materials, non-conventional materials and techniques. Building services – Drainage and water supply at site level and city level, acoustics, fire fighting, natural and mechanical ventilation, lighting and illumination. Transportation Planning – Traffic sign and signal design, theory of traffic flow, intersection design, integrated transportation planning and modal splits. Modular coordination, construction techniques and materials, Digital Architecture concepts.

2. PROFESSIONAL PRACTICE AND MANAGEMENT

Nature of profession, difference between trade, business and profession. Professional organizations like I.I.A., COA & their membership , Scope of comprehensive architectural services as framed under Architect's Act 1972. Code of Conduct, scale of professional fees as per rules and regulations framed by the Council of Architecture. Building byelaws, national building code, architects' act. Architects office set up and administration, correspondence, letters, reports, taking instruction from the client, its interpretation, design process and its stages, preparation of drawing,

filing, standardization and documentation. Office Organization, Proprietorship, Partnership, Company etc; Registration as Firm / Company etc. Accounts systems and Taxation. Methodology of writing specifications with reference to building trades, materials, workmanship and performance of different items of work and introducing the students to specifications as an integral part of contract document for building projects. Building contracts and tendering procedures. Project Management – PERT, CPM, Supply chain management, quality, control, safety issues on sites. Architectural supervision, quality control and monitoring of projects. Introduction to 'Arbitration' Intellectual Property rights and patents. Tools of IPR and patentability aspects interventions and innovations.

3. COMPUTER APPLICATION IN ARCHITECTURE

Advanced computer graphics and information system: Computer systems and languages. Computer organization, computer peripherals, software/Hardware concepts. Introduction to workstation. Concepts and working knowledge of application and the usage of software for word-processing, spreadsheets etc. Introduction to computer aided design (CAD) and GIS, software like, sketch up, wire frame, modeling photo shop, work things, In-design, Ravit etc . BIM for Construction.

4. ARCHITECTURAL RESEARCH

Research Basic concepts : Meaning , objectives and motivation. Types of research in architecture. Role and importance of theory in research, ethics. Research Process: Research problem , research question, Literature Survey, data review and sourcing. Research Methods and Methodology: Qualitative and quantitative research and its application in architecture. Types of data, Data collection and processing techniques, Data analysis and interpretation of findings. Research Design : research approaches and paradigms. Variables, Sampling, Visual and behavioral research in architecture Introduction to Environmental Behavioral Studies in Architecture, EBS Origins and Issues Environmental Perception, Cognition, and Meaning, Socio-cultural Dimensions of Environment/Behavior Relationships Reporting Research: Dissertation/thesis, Abstract, synopsis, SOP, structure, citation and referencing, Scholarly research papers.

Reference Books:

- (1) Social Science Research: Principles, Methods, and Practices, Bhattacharjee, Anol, Textbooks Collection. Book .http://scholarcommons.usf.edu/oa_textbooks/3, (2012).
- (2) Research Methodology- A step by step guide for Beginners, Ranjit Kumar, Sage Publications, New Delhi.
- (3) Foundations of Behavioural Research, Fred N. Kerlinger, Holt, Rinehart and Winston Inc, New York.
- (4) Architectural Research Methods, Kerry London and Michael Ostwald , John Wiley and Sons, New York:2002
- (5) Fundamentals of Statistics, S. C. Gupta, Himalaya Publishing House, 2018