

ANNEXURE (VIII)- Syllabus

Part A -Subject Syllabus

1. **History of Architecture:** - Pre Historical Architecture, River Valley Civilizations, Greek Civilization, Roman Civilization, Buddhist Architecture in India, Indo-Aryan Style, Jain Temple, Early Christian Architecture, Construction Methods and General Architectural characteristics of St. Peters, Rome, St. Sophia Church, Main visual and construction vocabulary of Gothic Arch at Notre Dame Paris, and Reims Cathedral, Florence cathedral & Michael Angelo & Palladio. (E.g. St. Peter's Rome, The Capital Rome & Villa Capra). Islamic Architecture in India, Industrial Revolution. Modern Architecture. Contemporary/Post-Independence Architecture in India, Construction and Architectural styles.
2. **Architectural design:-** Elements, Principles and Objectives of design, Importance of scale in architecture, Human scale and Monumental scale, Role of colour in architecture, Anthropometric Studies. Building types: Residential, Commercial & Institutional, NBC guidelines, Architectural character and style, study of modern and traditional iconic buildings, Interrelationship of form, function and circulation in architectural design, application of computers in architecture, AutoCAD, 3d-studio and 3d max and Building Bye-laws.
3. **Building construction & materials:** - Brick work and stone work, Damp Proof course, Foundations, Doors and windows, Flooring, Roof and roof coverings, Staircases and ramps, Interiors of Buildings, Expansion joints, Form work and steel work, Steel Sections and Roofs, Finishes. Earthquake Resistant Building configuration. Surveying and Levelling. Basic Principles & components of working drawings, Estimation, Specifications, Valuation, Professional Practice, Materials and structural systems, behavioural characteristics of all types of building materials e.g. Mud, timber, bamboo, brick, concrete, steel, glass etc.
4. **Building services:-** Water Supply: Domestic, commercial, industrial and public water supply, System of water supply ,Storage and Distribution of Water, Hot water supply for buildings including solar water heating. Concept of Rain water harvesting. Principles & systems of drainage, Septic tanks, and soak pits. Acoustical materials and their uses in various buildings. Lighting: Methods of lighting, and Electrical Fittings, Electrical distribution .Heat, Ventilation and Air Conditioning (HVAC) system, Vertical Transportation Systems, firefighting system, provisions in building from fire safety angle as per BIS; fire safety as per NBC.
5. **Structure Mechanics & Systems:** - Force system and Equilibrium, Centroid and Moment of Inertia, Stress and Strain, Shear Force and Bending Moment, Bending stresses in Beams, Introduction to plain frame, RCC structures, steel structures and various types of structure systems.
6. **Climatology:-** General Introduction, Relation of Climate and comfort, Sun Control and shading devices, Wind control, Use of building materials with respect to climate, Criteria for site selection & Environment and Ecology.
7. **Town planning:** - Greek towns, Roman Military Towns, Italian Hill Towns, Medieval Fortified Towns & Renaissance Ideal Towns. Growth of the Industrial Town. Linear city, Garden city, Vertical garden city. Planning Process and Site selection. Introduction to Urban land uses & their management & Legislation and Urban Controls.
8. **Landscape design and Site planning:** - Elements of Landscape, Principles of landscape design with respect to architectural functions, Relationship of landscape & climate & Outdoor functional spaces with respect to different building type.
9. **English & Communication skills:** - Facets of Literature, Grammar and Usage, Translation, Comprehension, Communication, Listening, Speaking, Reading, Writing, vocabulary & Grammar.
10. **Applied Physics, Mathematics & Chemistry:-** Units and Dimensions, Force and Motion, Waves and Vibrations, Rotational Motion, Work, Power and Energy, Properties of Matter, Thermometry, Optics, Electrostatics, DC Circuits, Electromagnetism, Semiconductor physics ,Modern Physics. Algebra, Trigonometry, Co-ordinate Geometry, Differential Calculus, Integral Calculus, Statistics and Probability & Differential Equations. Basic Concepts of Chemistry, Atomic Structure, Periodic Table and Chemical Bonding, Water, Gas laws, Terminology of Thermodynamics and Equilibrium, Electrochemistry & Organic Chemistry.

11. **Basics of Management:** - Principles of Management, Work Culture, Leadership and Motivation, Legal Aspects of Business: Introduction and need, Management Scope in different Areas, CRM, and TQM & IPR.

Part-B

General Knowledge, Logical Reasoning & Mental Ability

(a) General Knowledge and Current affairs of National and International importance including:

- (i) Economic issues.
- (ii) Polity issues.
- (iii) Environment issues
- (iv) Science and Technology.
- (v) Any other current issues.
- (vi) (a) History of India with special reference to Indian freedom struggle movement
- (b) History of Punjab- 14th century onwards

(2) General Mental Ability , Logical Reasoning & Quantative Aptitude

- (i) Analytical Reasoning, Logical Reasoning and Mental Ability
- (ii) Basic numerical skills, numbers, magnitudes, percentage, numerical relation appreciation.
- (iii) Data analysis, Graphic presentation charts, tables, spreadsheets.