SYLLABUS ARCHITECTURE

Section1: Architecture, Planning and Design

Architectural Graphics; Visualcompositionin2Dand3D; Computer Application in Architecture and Planning; Anthropometrics; Organization of space; Circulation-horizontal and vertical; Space Standards; Universal design; Building byelaws; Codes and standards;

Section2: Construction and Management

Project management techniques e.g. PERT, CPM etc.; Estimation and Specification; Professional Practice and ethics; Form and Structure; Principles and design of disaster resistant structures; Temporary structures for rehabilitation;

Section3: Environmental Planning and Design

Natural and man-made ecosystem; Ecological principles; Environmental considerations in planning and design; Environmental pollution- types, causes, controls and abatement strategies; Sustainable development, goals and strategies; Climate change and built environment; Climate responsive design;

Section4: Urban Design, landscape and Conservation

Historical and modern examples of urban design; Elements of urban built environment – urban form, spaces, structure, pattern, fabric, texture, grain etc.; Concepts and theories of urban design; Principles, tools and techniques of urban design; Public spaces, character, spatial qualities and Sense of Place; Urban design interventions for sustainable development and transportation; Development controls–FAR, densities and building bye laws.; Urban renewal and conservation; heritage conservation; historical public spaces and gardens; Landscape design; Site planning;

Section5: Planning process

Salient concepts, theories and principles of urban planning; concepts of cities - Eco- City, Smart City; Concepts and theories by trendsetting planners and designers; Ekistics; Urban sociology; Social, Economic and environmental cost benefit analysis; Methods of non-spatial and spatial data analysis; Development guidelines such as URDPFI;

Section6: Housing

Housing typologies; Concepts, principles and examples of neighbour hood; Residential densities; Affordable Housing; Real estate valuation;

Section7: Services and Infrastructure

Firefighting Systems; Building Safety and Security systems; Building Management Systems; Water treatment; Water supply and distribution system; Water harvesting systems; Principles, Planning and Design of storm water drainage system; Sewage disposal methods; Methods of solid waste management - collection, transportation and disposal; Recycling and Reuse of solid waste; Land-use – transportation - urban form inter-relationships; Design of roads, intersections, grade separators and parking areas; Hierarchy of roads and level of service; Para-transits and other modes of transportation, Pedestrian and slow moving traffic planning;

Section8: History and Contemporary Architecture

Principles of Art and Architecture; World History of Architecture: Egyptian, Greco- Roman classical period, Byzantine, Gothic, Renaissance, Baroque-Rococo, etc.; Recent trends in Contemporary Architecture: Art nouveau, Art Deco, Eclecticism, International styles, Post Modernism, Deconstruction in architecture, etc.; Influence of Modern art and Design in Architecture; Indian vernacular and traditional Architecture, Oriental Architecture; Works of renowned national and international architects;

Section9: Building Construction and Structural systems

Building construction techniques ,methods and details; Building systems and prefabrication of building elements; Principles of Modular Coordination; Construction planning and equipment; Building material characteristics and applications; Principles of strength of materials; Alternative building materials; Foundations; Design of structural elements with different materials; Elastic and Limit State design; Structural systems; Principles of Pre-stressing; High Rise and Long Span structures, gravity and lateral load resisting systems;

Section10: Building Services and Sustainability

Solar architecture; Thermal, visual and acoustic comfort in built environments; Natural and Mechanical ventilation in buildings; Air Conditioning systems ; Sustainable building strategies; Building Performance Simulation and Evaluation; Intelligent Buildings; Water supply; Sewerage and drainage systems ;Sanitary fittings and fixtures; Plumbing systems; Principles of internal and external drainage system; Principles of electrification of buildings ;Elevators and Escalators-standard sand uses;

Section11: Regional and Settlement Planning

Regional delineation; settlement hierarchy; Types and hierarchy of plans; Various schemes and programs of central government; Transit Oriented Development (TOD), SEZ, SRZ etc.; Public Perception and user behavior; National Housing Policies, Programs and Schemes.; Slums, Squatters and informal housing; Standards for housing and community facilities; Housing for special areas and needs;

Section12: Planning Techniques and Management

Application of G.I.S and Remote Sensing techniques in urban and regional planning; Tools and techniques of Surveys – Physical, Topographical, Land use and Socio- economic Surveys; Urban Economics, Law of demand and supply of land and its use in planning; Graphic presentation of spatial data; Local self-governance, Panchayati raj institutions; Planning Legislation and implementation – Land Acquisition Act, PPP etc.; Decision support system and Land Information System; Urban geography and econometrics;ManagementofInfrastructureProjects; Demography and equity in planning;

Section13: Infrastructure Planning

Process and Principles of Transportation Planning and Traffic Engineering; Road capacity and Travel demand forecasting; Traffic survey methods, Traffic flow Analysis; Traffic analyses and design considerations; Traffic and transport management and control in urban areas; Mass transportation planning; Intelligent Transportation Systems; Urban and Rural Infrastructure System Network;