

**DETAILED SYLLABUS FOR THE POST OF TOWN PLANNING OFFICER
(PLANNING) (GREATER COCHIN DEVELOPMENT AUTHORITY)
(CAT.NO. : 423/2021) ASSISTANT TOWN PLANNER
(TOWN AND COUNTRY PLANNING) (CAT.NO. : 550/2021, 32/2022)**

(Total Marks - 100)

Urban Planning History, Theory and Systems (10 Marks)

Purpose, scope and limitations of settlement planning; planning process, definitions of key terms in planning - City and region, rural-urban fringe, rural urban continuum, urbanisation and impact on planning, planning process, sub fields within planning – housing, transportation, environmental planning, regional planning, etc

Need to study history of planning and evolution of human settlements; origins and growth of cities; Basic elements of the city; Factors affecting settlement evolution: - geographical, climatic, socioeconomic, cultural etc.

Ancient Cities, Medieval, Renaissance, Industrial and post industrial cities; Contribution of individuals to city planning: Patrick Geddes, Lewis Mumford, Le Corbusier, Frank Lloyd Wright, C.A. Doxiadis, Clarence Perry, Clarence Stein, Peter Hall, Peter Calthrope etc. Growth of ICT, Globalization and impact on cities

History of urbanisation in India – ancient, medieval, pre colonial, colonial, spatial patterns of urbanisation, settlement systems, classification of cities

Character of Indian cities and challenges involved in planning; Urban planning and five year plans, urbanisation policy

Theory of city form: normative models – cosmic, machine, organic; Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory; Ebenezer Howard's Garden City Concept; Land use and land value theory of William Alonso. Modes of planning – Rational, blue print, synoptic, incremental, advocacy, participatory, political economy approach - communicative model, Emerging Concepts: new urbanism, just city, global city, information city, inclusive city, safe city, sustainable city.

Planning Techniques (10 Marks)

Defining development plan; Types and scope of development plans: Regional plan, Perspective Plan, Master plan, Town planning scheme, Layout plan; Structure plan, District plan, Action area plan, Subject plan; Hierarchy of plans and its significance

District Planning Committees and Metropolitan Planning Committees; Different development authorities and other organizations like improvement trusts.

Concepts of Zonal Plans, Area Development Plans and Development Schemes: Urban Renewal, Redevelopment, City Development Plans, Planned Unit Development etc.

Concepts of land use, zoning regulations, Development Control regulations;

Data base for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Sampling and survey techniques

Techniques of preparing base maps including understanding the concepts of scales, components and detailing for various levels of plans like regional plan, city plan, zoning plan, and local area plan.

Land information systems including GIS – aerial photography, remote sensing, photogrammetry, photo interpretation and mapping

G.I.S. Terminology; Coordinate systems;

Remote Sensing- Concepts and principles, LU/LC analysis- Change detection in LU/LC,

Significance of spatial analysis; Overview of tools for analysis

Guttman's Scalogram, Desire line diagrams, Threshold analysis: Input output analysis, SWOT analysis: Planning models (descriptive and decision making models),etc.

Spatial standards, performance standards and benchmarks, and variable standards

URDPFI and RADPFI guidelines, National Building Code, CPHEEO (MoUD) Standards,

Newer approaches /Techniques in settlement planning: Land pooling, land assembly, PRT (Plot reconstitution techniques), land readjustment, Transfer of Development Right

Various approaches to urban land zoning (mixed zone, floating zone, etc.). TOD (Transit Oriented Development), New Urbanism and PIU (Principles of Intelligent Urbanism),

Current policies and programmes in city & metropolitan planning at various levels, Public participation in planning process

Legal framework for planning in India and Kerala, planning and development organisations at Central, state and local level; planning practice in private sector;

Scope of work in planning practice, fees and other terms and conditions of planning work.

City & Metropolitan Planning (5 Marks)

Cities as engines of growth, cities as ecosystems, resources in cities. Growth of metropolitan and mega cities – scale, complexity and its impact on national development.

City, fringe and the periphery - physical and functional linkages- peri-urban development, Multi-nuclei developments: hierarchy of urban centres and their functional linkages.

Trends, characteristics, theories on growth of human settlements, Metropolis, Megalopolis and Extended Metropolitan Regions

Emerging social and economic characteristics of the central city and the suburbs, special problems of the central area

Migration, sub-urban development, sprawl, Issues related to diversity and unintended growth, Economic, social and environmental sustainability, Quality of life, inclusivity and equity, Growth of Slums

Socio Economic basis for Planning (10 Marks)

Nature and scope of sociology – basic concepts like family, institution, group, association, community, social process, social norms, social structure, social stratification etc.

Indian society - Culture, language, religion, caste, rural community, urban community, agrarian and industrial societies characteristics of urban and rural poverty.

Patterns and trends in Indian urbanization, Urban social structure and stratification, dynamics of growth and change, Socio-economic transformation, social problems of urban poor, social planning, policies and programmes.

Basics of Economics – Concepts of economics, economic growth and development, GDP, GNP, per capita income, Demand and supply, production economics, economies of scale; urban and regional growth,. Economics concepts of land, objectives and scope of land economics; relevance for spatial planning; economic principles of land use; market mechanism and land use pattern.

Basic concepts of macro-and micro-economics

Introduction to economics of urban areas;. Economic and spatial planning in India

Measurement of poverty, magnitude of problem; defining the poverty line, urban versus rural poverty; Causes and consequences of poverty, Poverty alleviation programmes.

Population and demography – population issues in India – source of demographic data capturing in India (Population census, Civil Registration systems, Sample registration systems etc).

Population characteristics and structure, composition, occupational structure, determinants of

population growth, Migration and its implication in settlement development and planning,-
population forecasts and projections
Demographic Transition in India and Kerala

Housing and Rural Development (10 Marks)

Concept of housing, Relevance of housing, Concept of Household, Habitable Room, Habitable Dwelling Unit, Adequate Housing,
Characteristics of housing, definitions. Habitat Agenda, New Urban Agenda, Global-housing Challenges. Introduction to economics of housing, housing stock, housing shortage, housing need and demand. Affordability, household income & housing
Issues related to housing the poor, houseless population, Slums & Informal settlements.
Housing typologies based on materials, form and characterises of construction,
Housing age, dilapidation, obsolescence, occupancy rate, , plotted development, group housing, multi-storied housing, villas
Housing Conditions in India and Kerala, Housing Standards , Contribution of housing sector to national wealth, GDP and employment creation, Housing finance. Housing in the National plans. Housing for the poor, Slums and squatters, informal sector housing, Caste, Ethnic and Class groupings & segregation in housing, Gender dimensions of housing, housing for elderly Access to infrastructure, services and facilities in housing areas – public health issues – Housing Environment and General Welfare – Residential satisfaction & factors contributing to residential satisfaction
Understanding housing as an important land use component of city development plan /master plan, location of residential zones in relation to other land use zones in the city, considerations for carrying out city level housing studies. Population and household projections, estimation of future housing requirements. Land use provisions, suitability of land for housing. Factors contributing to housing stress
Green Housing, Sustainable housing, Green Ratings (LEEDS, GRIHA etc.). Low-rise and high-rise developments, density considerations, Neighbourhood & cluster housing.

Village Planning and Rural Development

Levels of living of rural people-trends of development differentials in level of development between various regions within India and different socio economic groups.
National planning and rural development. Concepts of planning for rural settlement. Regional development and urban rural partnership, related inputs and infrastructure development.

Agricultural development, allied activities and patterns of rural linkages, communication and marketing facilities, community development, institutions and delivery of social services
Three tier system of rural local Government; Need and scope for people's participation and Panchayati Raj, linkage between Panchayati Raj, participation and rural development; Five Year Plans and Rural Development; 73rd Constitution Amendment Act, including – XI Schedule, devolution of powers, functions and its implications;
Government programs on Rural Development, employment and poverty alleviation

Regional Planning & Resource Development (5 Marks)

Aims, objectives, relevance and scope of regional planning; Concepts and classification of regions; Characteristics of a planning region; Delineation of regions; Regions in India; Regional delineation techniques, Factor analysis, Cluster analysis; Flow analysis
Regional Interaction theories – Central place theory, Zipf's Rank Size Rule; Regional growth – Sector theory, Export base theory; Input-output model; Least cost approach – Von Thunen, Weber
District as a region – scope and limitations; Preparation of regional plan and implementation;
Planning for Metropolitan regions , examples NCR, Mumbai, Chennai
Role of regional planning in balanced development
Regional imbalances; Characteristics and reasons for backwardness; Theories of Regional Economic Divergence - Cumulative Causation Theory, Growth Pole Theory, Misra's growth foci approach
Resource Regions in India - Western Ghats region, South-East Resource Region, Coastal Regions, and River Valley Regions; Industrial Regions, Coastal regions, etc.
Planning for infrastructure in a region; Planning for special areas and mega projects;

Infrastructure, Traffic & Transportation Planning (10 Marks)

Concepts in Infrastructure

Elements of Infrastructure (Physical, Social, Utilities and services); Basic definitions, concepts, significance and importance; Social and Physical infrastructure- components- qualitative and quantitative techniques of assessing requirements, Planning Amenities and institutions- Public and private sector role in infrastructure development. Financing mechanism associated with infrastructure development

Physical Infrastructure

Water– sources of water, treatment and storage, transportation and distribution, quality, networks,

Sanitation – points of generation, collection, treatment, disposal,

Storm water – rainfall data interpretation, points of water stagnation, system of natural drains, storm water collection and disposal

Municipal and other wastes –generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse,

Power – Sources of power procurement, distribution networks, demand assessment,

Fire –vulnerable locations, methods of fire fighting,

Norms and standards, planning provisions and management issues of Infrastructure

Social Infrastructure

Education, Health, Civic Types, hierarchical distribution of facilities, Access to facilities, provision and location criteria, Norms and standards etc.

Managing infrastructure development, Equity, Access, level and Efficiency, Quality of Service, Paying Capacity, Pricing of Infrastructure Services.

Traffic & transportation planning

Role and relevance of traffic & transportation planning in national development- features of urban forms and network patterns- Historical overview of transport development. Design and operational characteristics of transport modes and systems. Geometric Design of roads and intersections- classification of roads, Hierarchy of roads, Design of Road layout, Road capacity, traffic & travel characteristics.

Road traffic safety- factors affecting Road safety

Transportation planning process- problem definition, Trip generation, Trip distribution, Trip assignments, modal split and evaluation. Transportation surveys- land use, speed and journey time and delay surveys – Traffic volume surveys- O.D Surveys- Parking survey- Transportation survey etc. Comprehensive Traffic and Transport Study (CTTS) and Comprehensive Mobility Plan (CMP). Use of Analytical Models for Transportation planning-

Planning Legislation & Governance (10 Marks)

10 Marks Meaning of terms of law, legislation, ordinance, bill, act, regulation and bye-laws.

Significance of law and its relationship to urban planning - Benefits of statutory backing of schemes - Law of eminent domain and police powers - Evolution of planning legislation – A brief History of Planning Legislation in India and Abroad.

Concepts and contents of the Indian Constitution, article 21; Rights and their implications

for planning; Fundamental provisions regarding property rights; Provisions relating to land its development and its use – Statutory powers and responsibilities of Central Government, State Governments, Union Territories and Local Authorities with respect to urban development and their legal structure.

Town and Country Planning Act - Its implication on preparation and implementation of regional plans, development plans, town planning schemes, area plans etc.

Appraisal of Land Acquisition Acts, Urban Land (Ceiling and Regulation) Act, Slum Clearance/Slum Improvement Act, Rent Control Act, Environment Protection Act and legislations on Environment Protection and Pollution Control, Conservation and management of ancient monuments and archeological sites and remains Act

73rd and 74th Constitutional Amendment Acts, Implications of the Acts on development.

Overview of development control regulations – zoning, sub division regulations, building regulations and bye-laws.

Governance: Definition, concepts and components, Government and governance, salient provisions in the Constitution of India.

Governance systems in India - Overview of urban and rural governance structure in India, evolution, processes and the role of - The Planning Commission, National Development Council, NITI Ayog and their role in framing development policies.

Role of states in planning processes: facilitative, regulatory and other powers, decentralization of powers after the 73rd and 74th CAA, Local institutions in the governance process, district authorities and state level agencies, Participatory governance

Institutional framework for urban and rural development planning, national level committees and commissions on urbanisation

Principles of good governance and practices, effectiveness of E- governance mechanisms,

Sustainable Urban Planning (5 Marks)

Climate change and Urbanisation

Basics of Climate Change: Greenhouse gases, Anthropogenic causes, Carbon cycle, Global warming; Urban Heat Islands; International environmental negotiations and treaties like 1987 Montreal Protocol, 1992, Rio Convention on Biological Diversity, 1997 Kyoto Protocol, MDGs, SDGs,

Environment and Development interface; Resource management, exploitation and conservation: Impact of urbanisation and development on environment; Management of sensitive zones in

urban areas – hills, coasts, water bodies and water fronts, wetlands etc. (including participatory approaches); Pollution and pollution control.

Sources of energy, Energy supply and demand; Energy consumption in cities, Determinants of energy demand in cities; Energy planning and management; Energy efficient development.

Carrying capacity based planning: Concept, Parameters and Indicator measures, Models and case studies in Urban development; Role of EIA in the planning and decision making process;

Green GDP; Environmental accounting; Green Budgeting; Carbon Trading; Carbon sequencing;

Environmental Planning and Development

Concept of environmental planning, Settlement structure and form in response to environmental challenges, Urban ecosystem Environmental zones, (Hill, Coastal, Arid)

Definition of calamities, disaster, disaster preparedness and mitigation, concepts of risk, hazard, vulnerability and resilience; Development and disaster management, Disaster Management

Framework at National, State and District Level, Integration of disaster management plan with other development plans

Development Management & Finance (10 Marks)

Development management concepts, definition, characteristics, objectives, scope and its relevance to the planning sector

Development goals and processes, effect of political – economic system on development management.

Key issues in development management of urban/rural settlements,

Development administration: Municipal administration system, rural administration system,

Development administration in India, national, state and local level organisations,

Role of housing boards, development authorities, improvement trusts and boards, cooperatives, agencies, private sector, NGO"s etc in housing / development management.

Development strategies: land management techniques for urban planning, housing and infrastructure development, Management, monitoring and evaluation techniques for development projects, participatory management processes, managing joint ventures, Practice of PPP in Urban Infrastructure projects, post occupancy management of housing and other development projects.

Alternative development management strategies: persuasive strategies, non-persuasive strategies, measures of inducements and promotion of development etc.

Public finance: Government structure under which public financing works - National financial Commission in India. Role of State finance Commissions.

Public finance evaluation tools – Fiscal Impact Analysis. Cost-benefit Analysis, Traditional and innovative methods of public finance including property tax, User fee, Impact fee, Tax increment financing, Use of special districts, Estimating infrastructure needs.

Development financing: resource mobilisation and intergovernmental fiscal relations, state grants and shared taxes of local bodies, Municipal finance,

Using land as a resource to finance urban development projects. Development financing tools – development improvement financing, value capture financing etc. Innovative methods and best practices in India and abroad. Role of good governance in development management, Best practices.

Urban Conservation, Urban Design and Landscape Planning (10 Marks)

Urban Conservation

Understanding Heritage – Built and Cultural Heritage – Heritage conservation – need, debate and purpose – Conservation and Preservation, ethics and principles involved – Distinction between Architectural and Urban Conservation – History of Architectural Conservation in International and Indian context.

Norms for conservation of heritage buildings and sites as part of Development Regulations - Conservation as an urban planning tool – financial incentives and planning tools such as TDR (Transferable Development Right)

Urban Design

Architecture – Urban planning and Urban Design relationships

Urban Image and Spaces – Image of the city and its elements by Kevin Lynch - Perception of urban environment – Understanding the organisation and articulation of spaces

Urban Morphology, Urban Mass, Enclosure, Pattern and Grain

Elements of townscape, Identity, techniques of urban design – Inventories – visual survey – techniques of visual recording - Site analysis – space and regulation of urban activities

Landscape Planning

Landscape as an outcome of natural processes; principles and techniques of design with landform, water and vegetation; the role of surface materials, outdoor fittings and structures.

Introduction to landscape ecology, Management Concepts related to urban ecology and urban habitats such as urban forests, river banks, regional parks and agricultural green belts. The management of open space in urban areas: ecological, economic and administrative issues.

Research Methodology for Planning (5 Marks)

Introduction, Research Paradigms, Types of research, Literature studies, Literature map, Identifying gap areas from literature review

Development of working hypothesis, Formulating research problem, Referencing styles

Research Design, Qualitative and quantitative research designs

Methods of data collection – Documents, Observation, Surveys, Types of data and measurement

Qualitative Research methods, Data collection and analysis, Grounded theory, Ethnography,

Phenomenology Types of Analysis, Interpretation and Generalization

Ethics in Research, plagiarism, Intellectual Property rights,

Preparation of Research proposals and reports, Dissertation, Thesis, Scholarly articles

Need for Statistical methods in research, Types of sampling, Sample size, Statistical Analysis,

Descriptive, Inferential and Predictive statistics, Data distribution, measures of central tendency and data dispersion

Testing of Hypothesis, Statistical errors in Hypothesis testing, Need for Anova, Chi Square tests, Correlation and Regression

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper