

ANNEXURE-II

SCHEME AND SYLLABUS FOR RECRUITMENT TO THE POST OF ASSISTANT DIRECTOR OF TOWN PLANNING IN TOWN AND COUNTRY PLANNING DEPARTMENT

Scheme of Examination

Written Examination (Objective Type)	No. of Questions	Duration (Minutes)	Maximum Marks
Paper-I: General Studies And General Abilities	150	150	150
Paper-II: Subject Concerned (Common To All) (P.G. Level)	150	150	300
Total			450

Name of the Papers	Language Of Examination
Paper-I: General Studies and General Abilities	Bilingual i.e., English and Telugu
Paper-II: Subject Concerned (Common to all) (P.G. Level)	English

SYLLABUS

Paper-I: GENERAL STUDIES AND GENERAL ABILITIES

1. Current affairs – Regional, National and International.
2. International Relations and Events.
3. General Science; India's Achievements in Science and Technology.
4. Environmental issues; Disaster Management- Prevention and Mitigation Strategies.
5. Economic and Social Development of India and Telangana.
6. Physical, Social and Economic Geography of India.
7. Physical, Social and Economic Geography and Demography of Telangana.
8. Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement.
9. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.
10. Indian Constitution; Indian Political System; Governance and Public Policy.
11. Social Exclusion; Rights issues such as Gender, Caste, Tribe, Disability etc. and inclusive policies.
12. Society, Culture, Heritage, Arts and Literature of Telangana.
13. Policies of Telangana State.
14. Logical Reasoning; Analytical Ability and Data Interpretation.
15. Basic English. (10th Class Standard)

PAPER-II: SUBJECT CONCERNED (COMMON TO ALL) (P.G LEVEL)

1. SETTLEMENT EVOLUTION AND PLANNING THEORY

- Need and relevance of the study of evolution of human settlements in modern context. Historic determinants of settlement evolution-mobility, socio-cultural, benefits, climate, technology, political power, geographical location etc.,
- Cities in History- Settlement types and patterns in the ancient, medieval, renaissance, industrial, colonial eras, Historical background of planning. The Post-Industrial City - changes in society and settlements following Industrial Revolution, Political and ideological basis of planning in different contexts. Contribution of Ebenezer Howard, Geddes, Louis Mumford, Le Corbusier, Doxiadis and others to city planning, Garden city idea and New Towns.
- Urban and Rural Settlements and their classification, Theories of Urban Structure- Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other modern theories.
- Urban sub-systems, concepts of land, location attributes and land uses, determinants of land use and relationship to the planning process, demand and supply of land for urban use-means and mechanisms, impact on urban structure. General goals of land policy. Rationale for land use planning, approach to land use planning. land use and transportation planning, Planning Principles.
- Urban Planning in India- Development plan, types, scope and objectives, local area planning, process for adaptive planning, Rational-Comprehensive planning, mixed scanning approach, Choice theory, Action planning and its application in Indian context.

2. PLANNING ANALYSIS AND TECHNIQUES

- Data for Planning and Socio-Economic Surveys: Data requirement for urban and regional planning, Collection of data-Primary and Secondary sources, Qualitative and Quantitative methods of data collection, Validation of data and reliability, Survey design, Observational methods, Types of observation, controlled observation, Questionnaire design of various types of surveys- Household surveys, Slum surveys, Traffic surveys, Parking surveys, Mail questionnaire, Stakeholder interviews for visioning exercise for focus groups
- Census nature of the organization, Sampling, sample design, size, types, sources of various data in India.
- Techniques of conducting land use surveys using modern technologies use of Drones, satellite imageries, GIS. Land utilization and physical features of land.
- Data requirements for various types of regional plans, techniques for conducting regional surveys. Methods adopted for collection of data, standards for development and re-development of residential, commercial, industrial and recreational areas, land use planning, socio-economic data for urban planning, inclusive planning and sustainable development.
- URDPFI Guidelines, Zoning Regulations and Development Controls.

3. SOCIO-ECONOMIC BASE FOR PLANNING

- Nature and scope of Sociology and Economics relevance to planning, sociological and economic concepts and methods applicable to planning.
- Socio-cultural profile of Indian society, community and settlements, urban sociology-tradition and modernity, social problems of slums and housing, social planning and policy, poverty in India- social and spatial structure, safety, security and spatial planning.
- Basics of economics- economic and human settlements, concepts of economic and economic growth, demand and supply, production, economic markets, pricing of public utilities and economic infrastructure, location economics, and planning, internal and external economics and urban and regional economic growth and its application to urban planning.

- Basic concepts in macro-economic and economic analysis, National and State Five Year Plans, economic principles of land use.
- Development of land and real property in India and its trend, Nature of land, contract purchase and transaction of land, registration of land and land record procedure. Assessment and prediction of land value and its prices, Real estate business set up, market and demand analysis, Private ownership and social land.

4. PLANNING PROCESS

- Definition of planning, the necessity and rationale of planning, the characteristics of planning, Goals and objectives, the planning process, blueprint and process approach to planning, disjointed and incremental mode of planning, normative versus functional mode of planning. Positive planning and ameliorative planning.
- Levels of planning in India and their broad inter-relationships, components of settlements, comparison of planning systems in India with that of other countries.
- Structure plan versus development plan, master plan, local area plans, district plans, regional plans and sector plans,
- Planning surveys: Types of surveys, primary and secondary surveys, socio-economic survey, local surveys, land use survey, space use Survey, physical survey, building use survey, visual survey, GPS/DGPS Survey, Application of RS and GIS in planning.

5. INFRASTRUCTURE PLANNING

- Data requirements for Infrastructure planning of urban network and services; feasibility planning studies and structuring the infrastructure systems planning water supply. Resource analysis, quality of water, system design; technological choices and alternatives. Issues related to the choice of centralized city water supply versus decentralized systems, quality and quantity requirements, and water requirement for various land uses; Storage facilities and distribution systems; Methods and successful urban water supply system practices.
- Waste generation processes in cities. Waste water disposal system including storm water drainage system, system designs, nodal facilities, technological and environmental considerations.
- Solid waste disposal; and management, Resource recovery technology options and determinants of type choice of systems as related to land use density, economy levels and location of urban industrial and commercial activity areas. Methods for Solid waste Collection, Storage, transportation and disposal; Processing and Treatment of Solid Wastes; Land Filling methods of Solid Waste Management. Private and Public partnership and innovative concepts and practices in Infrastructure Development
- Planning for fire protection, services and space standards, fire fighting, renewable energy sources. Policies, Programs and Projects: Understanding prevalent policies, projects and missions.

6. TRAFFIC AND TRANSPORTATION PLANNING

- Traffic and Transportation planning: Principles of traffic and transportation planning. Role of transport, types of transport systems, classification of roads, principles of segregation of traffic, road junctions, parking facilities, traffic signals, street lightings,
- Urban form-Transport patterns- land use, concept of accessibility, transport problems and mobility issues, capacity and geometric design elements of roads and intersections.
- Basic principles of Transport infrastructure design. Traffic and transportation surveys and studies, traffic and travel characteristics- Urban transport planning

process-stages, study area, zoning, data base, concept of trip generation. Traffic management- Transport System Management, environment and safety issues.

- Traffic Impact on Land Development: Principles of traffic impact analysis, land development attributes, traffic generation rates of different land use; Land development impact on traffic congestion on road segments, intersections and parking, impact on public transportation, pedestrian traffic and safety.
- Transport Planning Policies and Projects: Transport planning policies of central and state governments; Transit Oriented Development, Definition, concepts and key components; Principles of TOD, planning norms and standards of TOD. Public transport, BRT, Metro/ Mono Rail, Intelligent Transport System and its applications, Comprehensive Mobility Plan, Urban Transport Planning Process.

7. HOUSING AND COMMUNITY PLANNING

- Significance of housing and its relationship with urban development, Housing data analysis from census. National Housing Policies, Housing Strategies and programs. Housing need, demand, supply, issues, problems and shortage.
- Housing standards, Desirable and minimum standards, NBC 2016 provisions, UDRPFI guidelines
- Socio- economic factors influencing housing, affordable housing, low cost housing, slum up gradation and redevelopment. Housing typologies and layout patterns. Public and private sector housing, PPP models.
- Neighborhoods and Communities- Neighborhoods in planning, birth and development of neighborhood idea, the Indian neighborhood, Urban renewal.
- Development Control Regulations, ECBC norms, GRIHA rating systems. Housing finance institutions and agencies, their role in Housing development.

8. METROPOLITAN AND REGIONAL PLANNING

- Metropolitan Cities, Agglomerations and Regions: Defining cities, metropolitan cities, mega cities, metropolitan agglomerations, conurbations, and metropolitan regions; Physical, economic and political structures of metropolitan regions; and Globalisation and extended metropolitan region; desakota model, and territoriality of rural-urban interactions.
- Metropolitan Region Planning: Theories about the evolution of metropolitan regions; Techniques for the delineation metropolitan regions; Approaches to preparing metropolitan regional plans; Organizations involved in the planning of metropolitan regions; Implementation of regional plans in India.
- Peripheralization of Metropolitan Regions: Nature and causes of development in the peripheral areas of metropolitan regions; Actors involved in the development in the peripheral areas; Role of the private sector in the development of peripheral areas.
- Peripheral Development and Physical Environment: Environmental assets in peripheral areas of metropolitan regions and their uses; Condition and status of forests, water bodies, etc.
- Regional Planning: Basis for Regional Planning, Concepts of spatial organization and region. Regional economic growth process theories- Rostow, Hirschman, Myrdal, Concept of core and periphery. Theories of spatial growth process-Christaller, Losch- Rank size rule, Primate city concept. Types of region, delineation of regions. Concept of regional growth processes and growth centers. Regional imbalances and inequities in India. Regional basis of decentralized and multi-level planning in India. District and block level planning.

9. URBAN INFORMATION SYSTEMS AND SPATIAL ANALYSIS

- Urban Information Systems: Importance of urban information systems, information scales and levels; Pre-requisites for using planning information systems; Representing, modelling and impact analysis of the data; Query measurement and transformations; Summary statistics and inferences.
- Urban Information Systems for Planning: Urban information systems for planning; Tools for spatial data handling-type systems, nature, hierarchy and values; Raster and vector data structures; Analysis of tools and software; Spatial data models, geo-database; Geospatial information regulation statutes and policy guidelines.
- Government Initiatives and Urban Information Systems in Planning: National Natural Resources Management System (NNRMS), National Urban Information System (NUIS), NUIS guidelines and design standards; National urban observatory, municipal information systems, the National E-Governance Plan (NEGP) and land information systems; Global navigation satellite systems.
- Geographic Information System (GIS) and Remote Sensing Techniques: Geographic Information Systems: Concept, components, and benefits; Spatial data entry into GIS, data structure for GIS; Mapping and spatial analysis software, linking of attribute data, spatial data aggregation, spatial data generalization; Raster data capture; Cloud based GIS on Bhuvan platform; GIS based master plans; Resource satellite, and sensing capabilities; Aerial photography; Digital survey; Raster data processing and analysis.
- Geo-Rectification; Geometric distortions, image enhancement, transformation, segmentation; Image interpretation and analysis, 3D terrain modeling.

10. ENVIRONMENTAL PLANNING

- Environmental Management: Resource Planning, Sustainable development and Environmental economics, Biodiversity conservation and Management, Environment Impact Studies (EIA), EIA notification related to human settlement planning, Environmental policies. Climate change, mitigation and adaptation to climate change, climate change and governance/legislation.
- UN/International Conferences/Conventions (Global/National issues), Environmental concerns of human settlements, components, structure and meaning of the urban and regional environment.
- Environmental surveys, Methods of data collection, database for incorporation of environmental concerns in planning analysis, techniques of resource protection and conservation (land suitability analysis, carrying capacity, vulnerability analysis, resource type, scale, and inventory).
- Resource Assessment- Land-topographic analysis, Water-quality standards, Air and Noise-quality standards, Biodiversity-basics of floral and fauna diversity assessment. Methods of addressing environmental quality, environmentally compatible regional development.
- Ecological awareness in India: traditional, indigenous methods, contemporary trends, Planning and Environment- Planning, Planning contexts, types of planning, planning process and tools.
- Environment and its types, Population, Resources, Environmental Degradation and Pollution. Energy-Evaluation of energy resources, types of energy sources, renewable, non-renewable, conventional and non-conventional.
- Technology options for mitigation of environmental pollution, End of Pipe Treatment Systems-like Effluent Treatment Plants, Use of Scrubbers to minimize air pollution load, Versus combating environmental pollution, through "Waste Minimization", "Re-use" and "Recycle". "Recovery".

11. URBAN GOVERNANCE AND MANAGEMENT

- Concepts, Scope of governance. Theories of local government. History of urban local bodies in India. Determinants and indicators of good governance. Citizen charter, Right to Information Act and Right to Service Act. Urban reforms and best practices in urban planning.
- Planning authorities and their functions, Land Administration, Management and e-governance. Decentralized Planning, District and Metropolitan Planning Committees.
- Advocacy Planning and Participatory planning, role of NGOs, CSO's and CBO's.
- Integrated planning process and the role of global players such as World Bank, IMF, Asian Development Bank's DFID etc. in Planning.

12. PLANNING LEGISLATION AND PROFESSIONAL PRACTICE: -

- Concept of Law: Sources of law (custom, legislation and precedent); meaning of the term of law, legislation, ordinance, bill, act, regulations and bye-laws: significance of law and its relationship to urban planning; benefits of statutory backing for planning schemes.
- Indian Constitution: Concepts and contents of Indian Constitution; Rights and their implication on planning: Fundamental provisions regarding property rights; evolution of planning legislation and overview of legal tools connected with urban planning and development; model town planning laws.
- Statutory Framework for Planning and Development Law: Evolution of town planning legislation, town planning laws, town planning as a state subject, 73rd and 74th amendment and its implications for planning law, current amendments in planning and development laws.
- Evolution; An over view of legal tools connected with Urban Planning and Development, Land Acquisition Act, Town and Country Planning Act, Improvement Trust Act, Urban Planning and Development Authorities Act - objectives, contents, procedures for preparation and implementation of Regional Plans, Master Plans and Town Planning Schemes. Significance of land development control.
- Town planning legislations: Town planning Act, 1920, Urban Development Authority act.1975, Municipality Act, 1965, Hyderabad Municipal corporation Act, 1955, RERA, TS B Pass and other relevant Act.
- Aims and objectives of Professional Institutes, sister bodies, professional role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges.

13. URBAN DESIGN, CONSERVATION AND LANDSCAPE DESIGN

- Urban Design: Need, aspects, scope and components of urban space; Historic urban form from Greek, Roman, Medieval, Renaissance, Modern and Post-modern periods; Indian Urbanism: temple towns, Mughal city form, medieval cities, colonial urbanism, planned capital cities.
- Theorizing and reading urban space: Imageability, townscape elements, genius loci, collective memory; Social aspects of urban form: gender and class, contributions of Jane Jacobs, William Whyte, Issues of urban space.
- Conservation: Definition, understanding the need and purpose, Adaptive re-use; International agencies and their role in conservation: Conservation in India: role of ASI and INTACH; policies and legislations for conservation; Conservation Practice: listing, documenting, assessing architectural character, developing guidelines; heritage tourism.

- Landscape Design: Introduction to Landscape Architecture, Elements of Landscape Design: plant material, water and landforms. Site Planning Organization of spaces: circulation, built form and open spaces; site planning and micro climate, site planning for neighborhood parks, children's play area and campus development; Landscaping of Functional areas, Urban open spaces; principle of urban landscape: Street landscaping, landscape design for waterfront areas and functional areas in urban centers, green roofs and walls and Street lighting.

14. PROJECT PLANNING AND APPRAISAL MANAGEMENT:

- Introduction to project, Types of Project, Nature of Planning project, Project cycle, Identification of Project- Project formulation and appraisal- Project management, implementation, monitoring and evaluation techniques (PERT, CPM, LOB).
- Regulatory Frameworks Governing Projects, National Rehabilitation and Resettlement Policy (2007) - Social Impact mitigation; National Environmental Policy (2006)- Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP).
- Project Capital Investment Programme, Internal Rate of Return, Net present Value Cost-Benefit & Analysis, Social Cost Benefit analysis, Budgeting, Appraisal techniques in Project Proposal and objectives, Financial and Economical Appraisal, Socio cultural assessment - Process Monitoring Key Issues, Monitoring Schedule, Data collection, Design, strategy, Impact Evaluation Approaches, Key Issues.
- Financing and institutional Mechanisms for Projects: Municipal Finance, Policy support and budgetary allocations for implementation & Financing of urban projects, additional funding sources, resources based on achievement of urban reforms, implementation of urban projects, institutional capacity enhancement, issues on privatization, plan forms and indices.

15. RISK, DISASTER MITIGATION AND MANAGEMENT

- Basic Concepts of Disaster Management: Disaster: Definitions, concepts, types and perceptions; Recent initiatives at national and state level; Kyoto Framework of disaster mitigation and management; Paris agreements; Disaster management policy at the national and state levels; Disaster management statutes at national and state levels.
- Disaster Management Mechanisms: Disaster management mechanisms at national, state and district levels; global practices; Disaster and development; Development plans and disaster management plans; Roles played in disaster management by INGOs, NGOs, CBOS and armed forces; and Community Based Disaster Preparedness.
- Disaster Risk Mitigation: Natural Disasters: cyclones, floods, earthquakes, landslides etc.; Disaster as a physical phenomenon, causes and consequences of mitigation and management practices; Risk mitigation strategies in development plans inclusive of industrial, chemical and biological disasters; Land use planning, building bye laws and disaster safe construction practices.
- Disaster Preparedness and Post Disaster Management: Forecasting and early warning systems for various types of disasters; Role of communication and information technologies in disaster management; Disaster education and awareness, Case studies on natural disasters.
- Climate change and its implications in disaster mitigation; Post-disaster management including rehabilitation and reconstruction of disaster affected areas; Safe hill area development guidelines and coastal zone regulations for safe habitation.

16. CURRENT PLANNING TRENDS AND EMERGING CONCEPTS

- Current trends of national and international importance related to infrastructure, transportation, environment, information systems, technology etc., affecting urban settlement planning.
- Emerging concepts: Smart City, Global City, Inclusive City, Safe City, Compact city, Walkable City, Eco city, Virtual city, City of the future, SDG goals, Eco Districts, Innovation Districts, circular economy, cyber security, green infrastructure, CNG Vehicles, electric vehicles, MRTS, BRTS, MMTS, NMT, Transit oriented development, Disaster Resilient Planning, Carbon credits, Technology Parks, etc.
- Missions and Schemes: JnNURM, Shyama Prasad Mukherjee Rurban Mission (SPMRM), Heritage City Development and Augmentation Yojana (HRIDAY), Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD), Atal Mission for Rejuvenation and urban Transformation (AMRUT), Smart Cities Mission and Indian Urban Observatory (IUO), etc.