ASSAM PUBLIC SERVICE COMMISSION  
JAWAHARNAGAR, KHANAPARA, GUWAHATI-22

SYLLABUS  
(Degree Standard)

Syllabus for screening test (OMR Based) for Recruitment to the post of Assistant Architect under PW (Buildings & NH) Department of Govt. of Assam. The educational standard is of degree standard.

Full Marks: 100  
Time: 2(two) hours

Section - A: General Studies  
(Multiple Choice Objective Type Questions)

i. Current Events of National & International importance.
ii. History of India & History of Assam
iii. World Geography including India & Assam.
iv. Indian Economy, Indian National Movement.
v. Mental Ability
vi. Role and Impact of Science & Technology in India.
vii. Indian Polity, Political System of India.
viii. Indian Culture.

Full Marks: 100  
Time: 2(Two) hours

Section - B: Assistant Architecture:  
(Multiple Choice Objective type questions)

1. THEORIES OF ARCHITECTURE/DESIGN PRINCIPLES

- Definition of Architecture, Architectural design – an Integration of aesthetic and function, Aesthetic components – Proportion, Scale, balance, rhythm, symmetry, hierarchy, pattern and axis.
- Functional aspects of Architecture – site, structure, skin, circulation etc.
- Effect of colour - colour symbolism, Impact on interiors, exteriors and at city level.
- Elements of Architecture and their relationships.

2. HISTORY OF ARCHITECTURE

- Factors influencing Architecture of an era.
- Architectural character of Egypt, West Asia, Greece, Rome, Italy, France and England from 3rd Century B.C to 18th Century A.D and Modern Architecture.
- Outstanding examples of these periods with salient architectural features.
- Evolution of Hindu Temple and Architectural contributions of Dravidian, Pallava, Chola, Pandya and Indo-Aryan Periods – outstanding examples of these periods.
- Development of Islamic Architecture and contributions during the rule Humayun, Akbar, Jahangir, Shahjahan in India.
- Development of Indo – Saarcenic architecture – Design of New Delhi – Contributions by Le Corbusier and Louis Kahn in India.
• Contributions by B.V. Doshi, Charles Correa, Kanvide and Nari Gandhi to Indian Architecture – Examples and philosophies.

3. MATERIALS AND CONSTRUCTION TECHNIQUES
• Advantages and disadvantages of concrete as a building material – properties – types and variety.
• Thermal insulation – blanket, poured and reflective insulation – properties and uses of spun glass, foamed glass, cork, vegetable fibers, mineral fibers, foamed plastics, vermiculite and glass fibers.
• Timber – Quality of timber used in buildings, defects, seasoning and preservation of timber. Types – Natural, hard and softwood.

4. BUILDING SYSTEM AND SERVICES
• Fundamentals of Sanitary waste and sewerage system – Basic principles of sanitation and disposal of waste matter from buildings, various sewerage disposal and their principles. Intercepting chambers, inspection chambers – their location and ventilation of sewers. Alignment of storm water drains in housing, layout and cities, collection, conveyance and disposal of town refuse. Rural sanitation.
• Water distribution systems – Water distribution systems in small towns, criteria to assess daily water requirements, Testing for water hardness, piping systems for residential and multi storied buildings.
• Types of pumps – Reciprocating, centrifugal deepwell, submersible automatic pumps, sewerage pump, compressors vacuum pump.
• Elevators – size, capacity, speed, mechanical safety method, Types of elevators – Electric, hydraulic passenger, hospital, capsule, freight, etc. Dumb waiters, Parallel and criss cross escalators, horizontal belt.
• Conveyors, horizontal moving walkways, physically handicapped mechanical safety systems.
• Electrical services – types of wires, wiring systems and their choice, Planning electrical wiring for building, types of earthing, main and distribution boards.
• Refrigeration and Air conditioning- Window type and packaged air conditioners, chilled water plant, fan coil systems, Air conditioning systems for different types of buildings.
• Fire safety – Fire detection system, Fire Alarm system, Fire Fighting systems, Dry and wet risers, Automatic Sprinklers.

5. TRADITIONAL AND CULTURE STUDIES
• Traditional Site planning method – Orientation of building, site, layout and settlement, positive and negative energies, importance of cardinal and ordinal directions.

6. URBAN STUDIES
• Definitions of Conservation, preservation, urban design and renewal, Need in the Indian Context. Land use structures of cities, impact of urbanization, developmental programmes and social development.
• Urban design concepts – Imagibility, life between buildings, transit metropolis, sustainable cities, generic cities, heritage tourism, community participation in urban design.
• Urban open spaces and urban landscape, street landscaping.
• Post Independence Urban Design in India – Influence of Chandigarh, Bhubaneswar and Gandhi Nagar.

7. ENVIRONMENTAL STUDIES
• Land resources – Land as a resource, land degradation, landslides, soil erosion and desertification, waste land reclamation.
• Landscape and ecology – Introduction to landscape architecture, ecology, ecological balance, landscape conservation, reclamation and landscaping of derelict lands.
• Site analysis – Importance of site analysis, on site and off side factors involved, topography, hydrology, soils, vegetation, climate, surface drainage, accessibility, infrastructure.
• Energy resources – Growing energy needs, renewable and non-renewable energy sources, alternate energy. Urban problems related to energy.
• Simple passive design considerations – Use of site conditions, orientation, plan form, envelope design, opening size and position to achieve solar passive architecture.
• Waste management – Solid waste recycling, such as composting, vermin composting and biogas. Liquid waste recycling, rain water harvesting, Biological and thermal energy options.

8. URBAN AND RURAL HOUSING
• Urban housing – Housing and its importance in architecture. Its relationship to neighborhood and city planning. Housing need and demand – National Housing Policy – Housing Agencies and their role in housing development.
• Housing Design – Housing typologies, integration of services, parking, sustainable practices, Qualitative aspects of housing, prefabrication in housing.

9. RULES, REGULATIONS AND LEGAL FRAME WORK
• Zonal regulations – Zoning, planned Unit Development, SEZ.
• Development Control rules – Significance, rules for various building types.
• National building code of India – Fire safety, ventilation, Mechanical services such as lifts and escalators.
• Environmental Laws in India – Protection of land, forest, water and air.
• Green Building concepts and regulations.

10. CURRENT TRENDS AND ISSUES
• Technology – Computer oriented 2D and 3D drafting. Use of digital medium for designing and presentation.
• Use of GIS for regional planning and Urban Governance.
• Role of Information Technology in Environmental Protection and human health.
• Impact of GATT and WTO on Architecture on India.
• Significance of “Intellectual property rights” for architects in India.
• Use of “Right to Information” as a powerful tool for architects.
• Mandatory rules to incorporate “Barrier free design”

Principal Controller of Examinations
Assam Public Service Commission,
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