**DETAILED SYLLABUS FOR THE POST OF**
**ARCHITECTURAL DRAFTS MAN GRADE III {PWD}**
**ARCHITECTURAL DRAFTS MAN GRADE II**
**(PUBLIC WORKS DEPARTMENT (ARCHITECTURAL WING)**

**(Cat.No. : 56/2025, 128/2025)**

**(Total Marks- 100)**

**MODULE 1. (10 marks)**

Architectural symbols and signs - Architectural symbols and signs and their uses in drawings, sketching techniques. Pencil grades, method of pencil uses, various types of pencil uses, various types of lines and used for sketching. Colour- Definition, Qualities- hue, value and intensity; Tint and shade; Classification of colours on the colour wheel- primary, secondary and tertiary colours; Warm and cool colours, light, dark and dull colours; Colour schemes. Related colour scheme- Monochromatic and analogous colour schemes, contrasting colour scheme- complementary, double complementary, split complementary; triad; Psychological effect of colours. Texture- Definition, tactile and visual textures, explanation of rough and smooth textures- their role in visual perception.

**MODULE 2. (5marks)**

Engineering Graphics - Engineering drawing tools and equipment, geometrical construction, solids, scale, types of projections. Orthographic, isometric projections.

**MODULE 3. (5 marks)**

Brick and Stone masonry - Brick – varieties and strength, characteristics of good brick. Types of bond- English and Flemish bond- for half brick thick and one brick thick wall. Tools and equipment used in Brick masonry. Stone masonry Coursed and uncoursed rubble and random rubble masonry Ashlar chamfered masonry. Technical terms Principles of stone masonry Classification of stone masonry.

**MODULE 4. (20marks)**

Substructure and superstructure-Parts of building – foundation – types of foundations – spread footing, isolated footing, combined footing, Raft, pile and well foundations. Arches and lintel. Arches- Types of arches (flat arch, semi-circular arch, segmental arch) Technical terms Classification of arches. Lintels- Materials used for construction Lintels Purpose and types (wooden lintels, brick lintel, stone lintel, reinforced concrete lintel, steel lintel). Roof systems - Flat roof, Sloping roof and Curved roof. Stairs, floors and floorings. Prefabricated panels, Damp proof course, Anti-termite treatments.

**MODULE 5. (10 marks)**

Carpentry joints, doors and windows -Carpentry- Details of joints in wood –Doors – Windows. Doors - Door types: Metal doors, metal framed doors, plastic doors & glass doors. Windows - Window types. Aluminium, Steel and plastic Window operation: Fixed, casement, awning & hopper, sliding, and pivoting.

**MODULE 6. (15 marks)**

Architectural design principles and conceptual design ideas - Principles- Balance-symmetrical, asymmetrical, radial. Proportion, Scale, Harmony, unity, Contrast, rhythm, Emphasis. Practical applications – role of form, colour, texture and light in creating balance, harmony, contrast, rhythm, etc. Elements of design-point, line, space, plane, volume, form. Buildings rules of Kerala, space standards of building, Types of occupancy, circulation systems. Open planning, closed planning.

**MODULE 7. (10 marks)**

History of Architecture and Greek, roman, Egyptian architecture Capitals and Orders. History of Indian Architecture, Rock cut creations under Pallavas, Shore Temple at Mahabalipuram. Dravidian Order seen in Brihadeeswara Temple,Tanjore, Meenakshi Temple, Madurai. Lingaraja Temple, Bhubaneswar; Sun temple, Konarak

**MODULE 8. (5 marks)**

Computers in Architecture drafting- Introduction to personal computers – hardware / software– operating system. Introduction to CAD packages- Setting up & controlling– Creating & Editing Commands Organizing a drawing with layers .Introduction to BIM.

**MODULE 9. (15 marks)**

Climate responsive design and sustainable architecture- Climate responsive design. Principles and its application; Active and passive systems. Climate &comfort, elements of climate. Site climate, Factors affecting site climate, Macro & microclimate, Urban and rural climate, Site analysis, concepts. Sun and the design process- Movement of sun and solar geometry, Orientation for sun, Passive solar design. Natural ventilation and air movement- Air movement around and through buildings. Fundamentals of green buildings, zero energy building, water efficiency, energy conservation, green building rating systems, LEED, GRIHA.

**MODULE 10. (5 marks)**

Types of joints- Reasons of requiring joint, types of joints in concretes- Expansion joints, Construction joints, Contraction, Isolation joints, Dummy joints, Sliding joints. Position material and spacing of joints.

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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.