

## Syllabus for Post - Tracer

Total No Question - 100

Total Marks - 100

### **I General Information:- (Marks -25 No.)**

General knowledge, Computer knowledge, Mental ability, Current Event, Sports, (National & International), Chhattisgarh General Information.

### **II. Technical Ability :- (Marks -75 No.)**

#### **1. Drawing:-**

List of Instruments, equipments and materials to be used during drawing. Techniques of use of instruments. Scale- Types of Scale, R.F. History of Indian Art & Architecture, Orders of Architecture, Layout of drawing, Lines, Lettering, Dimensioning, Scales and Projection. Projections Orthographic (Line, Plane, Solid in isometric, Oblique) and Perspective. Symbols & Conventional representation for materials in sections as per IS 962-1989 for building drawings. Geometrical Construction. Technical Sketching.

#### **2. Building Construction Materials :-**

Components of a building Materials -Rocks, Stones, Bricks, Lime, Cement, Clay Products, Mortar, Concrete, Timber, Admixture, Protective Materials- Paint, Varnishes, Metal, Plastics. Building Construction - Stone masonry, Brick masonry, Hollow block construction, Composite masonry, Masonry tools, Types of Foundation & its requirement, Soil bearing capacity, Permanent & temporary structures, Treatments for building structure – DPC, Dam proofing materials, Anti-termite treatment, Weathering course, Fire-proofing, Arches, Lintel. Carpentry joints terms, Doors, Windows, Ventilators, Floors, Flooring, Stairs, Roofs & Roof coverings, Truss, Shell.

#### **3. Building Planning:-**

Classification of buildings, planning & design of residential, public and commercial building, Concept of design of earthquake resisting buildings.

#### **4. Building Rules & Bye-Laws:-**

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Objectives & importance, Function & Responsibility, Lay out plan & key plan, Composition of submission drawing, Provision for safety, Requirement of green belt and land.

#### 5. Road, Rail & Bridge :-

Introduction, History of highway development, General principles of alignment, Classification and construction of different types of roads, Component parts, Road curves & gradient, Curves- types, designation of curves, Setting out simple curve by successive bisection from long chords, simple curve by offsets from long chords.

Rail gauges, functions, Requirements, Types, Sections, Length of rail.

Introduction bridge, classification of bridge. Selection of type and location, Cofferdam- types, Types of super structure, Substructure- piers, abutments, wing walls.

**(The above requirement is confined to maps only.)**

#### 6. Surveying :-

Introduction, History & Principle, Common terms used and definitions, Classification, accuracy, Types, Chaining, Bearing & Meridian, Latitude & departure, Consecutive Co-ordinate & Independent co-ordinates, Datum, MSL, Benchmark, Contouring- Definition, Characteristics, Method, Interpolation of contour. Study of Toposheet of different scale, Projection of Toposheet, Interpretation, extraction of data.

#### 7. Applied Art - Commercial Art :-

- a) Principles of Composition : Unity, harmony, balance, rhythm, emphasis and proportion, abstraction and stylization.
- b) Drawing & Painting : Terminologies, Foreshortening, perspective, eyelevel, fixed point of view, Vanishing point, ration proportion, sketching, proportion sketching, drawing, light & shade, painting still- life, landscape, anatomy, vertical, horizontal, two & three dimensional, transparent & opaque.
- c) Materials : Paper, pencil, water, acrylic colours, tempera colours, poster colours, pasted colours, water proof ink, canvas, hard-board.
- d) Media of Composition : Collage, Mosaic, painting, mural, fresco, batik, tie & dye.

- e) Sculpture : Relief and round sculpture, modeling with clay, terra-cotta, carving in wood and stone bronze casting.
- f) Graphics: Lino-cut, relief printing, etching, Lithography, Silk screen printing letter press and offset printing
- g) Applied Art : Book cover design and illustration, cartooning, poster, advertisements for newspaper and magazine etc., photography, computer graphic.

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