

# ગુજરાત ગૌણ સેવા પસંદગી મંડળ, ગાંધીનગર

## જાહેરાત ક્રમાંક ૨૧૫/૨૦૨૩૨૪ ની સ્પર્ધાત્મક કસોટીના

### વિગતવાર અભ્યાસક્રમ અંગેની અગત્યની સૂચના

મંડળ દ્વારા જાહેરાત ક્રમાંક ૨૧૫/૨૦૨૩૨૪, પ્લાનિંગ આસિસ્ટન્ટ, વર્ગ-૩ સંવર્ગની MCQ-CBRT (Computer Based Response Test) પદ્ધતિથી પરીક્ષાનું આયોજન કરવાનો નિર્ણય લીધેલ છે, જેની સંબંધિત ઉમેદવારોએ નોંધ લેવી. સદર સંવર્ગની પરીક્ષાનો વિગતવાર અભ્યાસક્રમ નીચે મુજબ રહેશે.

### DETAILED SYLLABUS of EXAM

#### PART: A (60 MARKS)

#### (1) Reasoning & Data Interpretation (30 Questions, 30 Marks):

1. Problems on Ages
2. Venn Diagram
3. Visual reasoning
4. Blood relation
5. Arithmetic reasoning
6. Data interpretation (charts, graphs, tables)
7. Data sufficiency

#### (2) Quantitative Aptitude (30 Questions, 30 Marks):

1. Number Systems
2. Simplification and Algebra
3. Arithmetic and Geometric Progression
4. Average
5. Percentage
6. Profit-Loss
7. Ration and Proportion
8. Partnership



#### **(4) Questions and Its Applications related to Technical Qualification**

**(120 Questions, 120 Marks)**

##### **1. Surveying**

Principles of survey, Reconnaissance survey, Classification of surveys, various methodologies, instruments & analysis of measurement of distances, elevation and directions, Topographic surveying using Total Station Contour survey: Characteristics of contour: Contour survey and mapping, Methods of Contouring, Interpolation of contours, slope analysis, gradients estimation Aerial survey. Unmanned Aerial Vehicle (UAV), Global Positioning System, Differential Global Positioning System (DGPS), LIDAR Remote sensing, Applications of GIS

##### **2. Preparation and study of Maps/Plans**

About cadastral and topographic maps in Indian context: Features, scale, data source, organizations etc. Elements of Maps, Map Layout; Graphical, linear and areal scales. Notations involving basic discipline of maps: Measurement of areas Use and application of Computer Aided Drawing (CAD), Building Information Modeling.

##### **3. Soil Engineering and Water Resources Management**

Bearing Capacity of Soil, Compaction and Stabilization of Soil Ground Water: terminologies related to ground water and its recharging, types/methods of artificial recharging Watershed- Concept and characteristics, Watershed development and management, conservation of various natural drainage channels including rivers and lakes Methods and structures for rain water harvesting

#### **4. Ecology and Environment**

Importance of environment, Natural eco-system- components and processes, environment issues Causes of environmental pollution, water pollution, air pollution, noise as pollution, Pollution due to solid waste. Pollution of land due to industrial and chemical waste Environmental Audit, objective based types of audit, EIA, Environmental clearance for the civil engineering projects Green Building Concept, Green Building Materials and various systems of rating.

#### **5. Seismic Engineering and Disaster Management**

Principles of seismic Engineering and its application in civil engineering and design of structure Features of disasters such as Floods, Earthquakes, Fires, Cyclones, Epidemics, etc. Management and mitigation of above disasters Effects of earthquakes on buildings, construction and maintenance of earthquake proof /resistant masonry structure

#### **6. Transportation Planning and Engineering**

Importance & Classification of roads, planning & construction of roads Traffic Surveys: Origin and destiny survey (O.D. Survey), Volume Study, travel time and delay study, Accidents studies, Parking studies Alignment and geometric design, Road geometry, Transition curve and Road Gradient, types of Pavement and Soil Stabilization, Principles of Flexible and Rigid pavements design, Road alignment Factors affecting the alignment, Junction/Intersection- types, elements and design criteria

## **7. Estimation, Costing and Valuation**

Estimating and Costing terminologies definition, purpose and related terminologies Types of specifications Rate Analysis: factors affecting, Importance and use Schedule of Rates (SOR) Types of property and Objects of valuation Valuation methods for property and land: Income Approach, Market Approach, Cost Approach Factors affecting value of land and property: Physical, Economic, Social and Legal aspects Property Rights: Freehold, leasehold, mortgage, easement, etc. Concept of Time Value of Money, Net Present Value and Internal Rate of Return Types of rents and fixing standard rents Depreciation and Obsolescence, Depreciated Replacement Cost

## **8. Construction Project Management**

Tendering process, Contract documents and conditions of Contract, Contract agreement Project Planning-methods and factors affecting planning, Scheduling and types of Schedules Critical path method, PERT analysis, Cost optimization Material management, Labour management, Equipment management Quality Control, Operation Cost Building Maintenance- Purpose, need, importance, methods, Causes and types of defects in buildings, Remedial measures, Safety management- requirement, importance; Causes of accidents and its type; Safety precaution and measures, safety equipments used in building construction and maintenance

## **9. Current Trends and Recent Advancements in the Above Fields.**

**ખાસ નોંધ:**

- (૧) **Part-A** માં તમામ પ્રશ્નો ગુજરાતીમાં રહેશે.
- (૨) **Part-B** માં અંગ્રેજી કોમ્પ્રીહેન્સનના પ્રશ્નો અંગ્રેજીમાં અને શૈક્ષણિક લાયકાતને સંબંધિત વિષય અને તેની ઉપયોગીતાને લગતા પ્રશ્નો અંગ્રેજી ભાષામાં રહેશે.
- (૩) જાહેરાત ક્રમાંક:૨૧૫/૨૦૨૩૨૪ ના અનુસંધાને તા.૧૦/૧૧/૨૦૨૩ ના રોજ મંડળની વેબસાઈટ પર પ્રસિદ્ધ કરવામાં આવેલ અન્ય સુચનાઓ યથાવત રહેશે.

સ્પર્ધાત્મક પરીક્ષાની તારીખ અને કોલ લેટર ડાઉનલોડ કરવા માટેનો વિગતવાર કાર્યક્રમ મંડળની વેબસાઈટ પર મૂકવામાં આવશે. જેની સંબંધિત ઉમેદવારોએ નોંધ લેવા આથી જણાવવામાં આવે છે.

**સ્થળ: ગાંધીનગર**

**તારીખ : ૦૬/૦૧/૨૦૨૪**

**હસમુખ પટેલ**

**સચિવ**