राष्ट्रीय राजमार्ग एवं अवसंरचना विकास निगम लिमिटेड
सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार
प्रथम तल, टावर ए, वर्ल्ड ट्रेड सेंटर, नौरोजी नगर, नई दिल्ली–110029.
National Highways & Infrastructure Development Corporation Limited
Ministry of Road Transport & Highways, Govt. of India
First Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi-110029, Tel: +91 11 26768950, www.nhidcl.com
(भारत सरकार का उद्यम) (A Government of India Enterprise)

F.No. NHIDCL/HR/Recruit./E4toE7Tech.Cadre(DR)/2025/e-260733/2846 Dated: 11.11.2025

Notice for Direct Recruitment in Technical Cadre and Notification of Syllabus for the same.

Subject: Advance information for recruitment to the post of Senior Manager (Technical) - E4 Grade, Deputy General Manager (Technical)- E5 Grade, General Manager (Technical) - E6 Grade and Senior General Manager (Technical) - E7 Grade in IDA Pattern in NHIDCL.

1. NHIDCL intends to recruit experienced professional against following vacancies in different grades of its Technical Cadre:

No. of posts to be filled under different category	Technical Cadre			
	E4	E5	E6	E7
Total posts under DR	21	15	7	5
UR	10	8	5	4
OBC (NCL)	5	3	1	1
SC	3	2	1	0
ST	1	1	0	0
EWS	2	1	0	0
PwBD (Horizontal)	1*	1*	0	0

2. The Recruitment shall be carried out as per provisions of NHIDCL Cadre Rules, 2025. The recruitment shall be a two-stage process as under:

i. **Stage 1: Eligibility Test-** This shall be a multiple-choice questions based test. For the purpose of screening candidates, this test shall examine traits of applicants such as general awareness, analytical ability, aptitude, logical ability.

ii. **Stage 2: Selection Test**

A. **Specific Written Test** - The applicants who qualify the Eligibility Test as given above shall be eligible to take a Specific Written Test, which shall be different for each of the Grade for which recruitment is being undertaken.

B. **Personal Interview** - This shall be conducted by the nominated Selection Committee, as per the process framed by it.

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3. Eligibility for different grades will be as under:

Posts & Grades	Minimum Qualification	Minimum Experience
Senior Manager (Technical) - E4	Degree in Civil Engineering	06 years of overall experience in Infrastructure Sector Projects related to Highways/ Roads/ Bridges/ Tunnels/ Runways/Building Infrastructure
Deputy General Manager (Technical)- E5	Degree in Civil Engineering	09 years of overall experience in Infrastructure Sector Projects related to Highways/ Roads/ Bridges/ Tunnels/ Runways/Building Infrastructure
General Manager (Technical) - E6	Degree in Civil Engineering	13 years of overall experience in Infrastructure Sector Projects related to Highways/ Roads/ Bridges/ Tunnels/ Runways/Building Infrastructure
Senior General Manager (Technical) - E7	Degree in Civil Engineering	16 years of overall experience in Infrastructure Sector Projects related to Highways/ Roads/ Bridges/ Tunnels/ Runways/Building Infrastructure

4. It is further clarified that **applicants who have or have had the experience of working in the NHIDCL for a total period of 5 (five) years i.e. 1825 days or more as on the date of issuance of the advertisement for Recruitment, shall be exempted from Stage-1: Eligibility Test**. However, all the other provisions for selection shall apply to such applicants.

5. Syllabus for Eligibility Test and Specific Written Test is attached **Annexure-I**.

6. This is for advance information only. The detailed advertisement giving timelines submission of application form, conduct of Test shall be issued separately.

7. It is further, informed that the eligibility and other terms and conditions for recruitment to above posts shall be as per NHIDCL Cadre Rules, 2025. A copy of which is available on NHIDCL's website.

11.11.2025

(Yogendra Mohan)

General Manager (Recruitment)

Distribution:

1. PPS to MD, NHIDCL/Director (A&F)/Director (Tech-I)/Director (Tech-II).
2. Executive Director (HR/Admin)
3. IT Division for uploading in NHIDCL website.

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Annexure-I

Syllabus for Tests

The exam will be conducted in two papers — Paper-I (General Aptitude) and Paper-II (Technical)

Paper-I: General Studies:

- General awareness: includes history, geography, economics, current affairs, Indian polity and general science.
- Verbal Aptitude, Basic English grammar: tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech Basic vocabulary: words, idioms, and phrases in context, reading and comprehension, Narrative sequencing.
- Quantitative Aptitude, Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series Mensuration and geometry Elementary statistics and probability.
- Analytical Aptitude Logic: deduction and induction, Analogy, Numerical relations and reasoning.
- Spatial Aptitude Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping paper folding, cutting, and patterns in 2 and 3 dimensions.

Paper-II: Technical Syllabus – (Civil Engineering- 30% Weightage, IRC Codes, standard bidding & contract documents, MoRTH Specifications for road & bridge works (5th revision) and Acts & rules – 70% Weightage)

A) Civil Engineering – 30% weightage:

i. Building Materials: Stone, Lime, Glass, Plastics, Steel, FRP, Ceramics, Aluminum, Fly Ash, Basic Admixtures, Timber, Bricks and Aggregates: Classification, properties and selection criteria; Cement: Types, Composition, Properties, Uses, Specifications and various Tests; Lime & Cement Mortars and Concrete: Properties and various Tests; Design of Concrete Mixes: Proportioning of aggregates and methods of mix design.

ii. **Solid Mechanics:** Elastic constants, Stress, plane stress, Strains, plane strain, Mohr's circle of stress and strain, Elastic theories of failure, Principal Stresses, Bending, Shear and Torsion.

iii. **Structural Analysis:** Basics of strength of materials, Types of stresses and strains, Bending moments and shear force, concept of bending and shear stresses; Analysis of determinate and indeterminate structures; Trusses, beams, plane frames; Rolling loads, Influence Lines, Unit load method & other methods; Free and Forced vibrations of single degree and multi degree freedom system; Suspended Cables; Concepts and use of Computer Aided Design.

iv. **Design of Steel Structures:** Principles of Working Stress methods, Design of tension and compression members, Design of beams and beam column connections, built-up sections, Girders, Industrial roofs, Principles of Ultimate load design.

v. **Design of Concrete and Masonry structures:** Limit state design for bending, shear, axial compression and combined forces; Design of beams, Slabs, Lintels, Foundations, Retaining walls, Tanks, Staircases; Principles of pre-stressed concrete design including materials and methods; Earthquake resistant design of structures; Design of Masonry Structure.

vi. **Construction Practice, Planning and Management:** Construction - Planning, Equipment, Site investigation and Management including Estimation with latest project management tools and network analysis for different Types of works; Analysis of Rates of various types of works; Tendering Process and Contract Management, Quality Control, Productivity, Operation Cost; Land acquisition; Labour safety and welfare.

vii. **Geo-technical Engineering and Foundation Engineering:** (a)**Geo-technical Engineering:** Soil exploration - planning & methods, Properties of soil, classification, various tests and inter-relationships; Permeability & Seepage, Compressibility, consolidation and Shearing resistance, Earth pressure theories and stress distribution in soil; Properties and uses of geo-synthetics.

(b)**Foundation Engineering:** Types of foundations & selection criteria, bearing capacity, settlement analysis, design and testing of shallow & deep foundations; Slope

stability analysis, Earthen embankments, Dams and Earth retaining structures: types, analysis and design, Principles of ground modifications.

viii. **Surveying and Geology:** (a) Surveying: Classification of surveys, various methodologies, instruments & analysis of measurement of distances, elevation and directions; Field astronomy, Global Positioning System; Map preparation; Photogrammetry; Remote sensing concepts; Survey Layout for culverts, canals, bridges, road/railway alignment and buildings, Setting out of Curves.
(b) **Geology:** Basic knowledge of Engineering geology & its application in projects.

ix. **Fluid Mechanics, Open Channel Flow, Pipe Flow:** Fluid properties; Dimensional Analysis and Modeling; Fluid dynamics including flow kinematics and measurements; Flow net; Viscosity, Boundary layer and control, Drag, Lift, Principles in open channel flow, Flow controls. Hydraulic jump; Surges; Pipe networks.

x. **Transportation Engineering:**

a) **Highways** - Planning & construction methodology, Alignment and geometric design; Traffic Surveys and Controls; Principles of Flexible and Rigid pavements design.

b) **Tunneling** - Alignment, methods of construction, disposal of muck, drainage, lighting and ventilation.

xi. **Hydrology:**

a) Hydrological cycle, Ground water hydrology, Well hydrology and related data analysis; Streams and their gauging; River morphology; Flood, drought and their management; Capacity of Reservoirs.

b) **Water Resources Engineering**: Multipurpose uses of Water, River basins and their potential; Irrigation systems, water demand assessment; Resources - storages and their yields; Water logging, canal and drainage design, Gravity dams, falls, weirs, Energy dissipaters, barrage Distribution works, Cross drainage works and head-works and their design; Concepts in canal design, construction & maintenance; River training, measurement and analysis of rainfall.

B) <u>IRC Codes, standard bidding & contract documents, MoRTH Specifications for road & bridge works (5th revision) and Acts & rules – 70% Weightage):</u>

i. IRC Codes

IRC Code	Title & Summary
IRC:5	Standard Specifications and Code of Practice for Road Bridges, Section I - General Features of Design
IRC:6	Standard Specifications and Code of Practice for Road Bridges, Section-II Loads and Load Combinations
IRC:16	Standard Specifications and Code of Practice for Prime and Tack Coat
IRC:19	Standard Specifications and Code of Practice for Water Bound Macadam
IRC:27	Specifications for Bituminous Macadam
IRC:33	Standard Procedure for Evaluation and Condition Surveys of Stabilised Soil Roads
IRC:34	Recommendations for Road Construction in Areas Affected by Water Logging, Flooding and/or Salts Infestation
IRC:35	Code of Practice for Road Markings
IRC:36	Recommended Practice for Construction of Earth Embankments and Sub-Grade for Road Works
IRC:37	Guidelines for the Design of Flexible Pavements"
IRC:38	Guidelines for Design of Horizontal Curves for Highways and Design Tables
IRC:43	Recommended Practice for Plants, Tools and Equipment Required for Construction and Maintenance of Concrete Roads
IRC:44	Guidelines for Cement Concrete Mix Design for Pavements
IRC:52	Guidelines for the Alignment Survey and Geometric Design of Hill Roads
IRC:54	Lateral and Vertical Clearances at Underpasses for Vehicular Traffic
IRC:56	Recommended Practices for Treatment of Embankment and Roadside Slopes for Erosion Control
IRC:67	Code of Practice for Road Signs
IRC:73	Geometric Design Standards for Rural (Non- Urban) Highways
IRC:75	Guidelines for the Design of High Embankments
IRC:78	Standard Specifications and Code of Practice for Road Bridges, Section VII- Foundations and Substructure
IRC:82	Code of Practice for Maintenance of Bituminous Road Surfaces
IRC:89	Guidelines for Design and Construction of River Training & Control Works for Road Bridges
IRC:93	Guidelines on Design and Installation of Road Traffic Signals
IRC:111	Specifications for Dense Graded Bituminous Mixes
IRC:112	Code of Practice for Concrete Road Bridges
IRC:131	Guidelines for Identifying and Treating Black spots
IRC:SP:13	Guidelines for the Design of Small Bridges and Culverts
IRC:SP:18	Manual for Highway Bridge Maintenance Inspection
IRC:SP:19	Manual for Survey, Investigation and Preparation of Road Projects
IRC:SP:35	Guidelines for Inspection and Maintenance of Bridges
IRC:SP:37	Guidelines for Evaluation of Load Carrying Capacity of Bridges

IRC Code	Title & Summary
IRC:SP:40	Guidelines on Repair, Strengthening and Rehabilitation of Concrete Bridges
IRC:SP:42	Guidelines on Road Drainage
IRC:SP:48	Hill Road Manual
IRC:SP:73	Manual of Specifications & Standards for Two Lanning of Highways with Paved Shoulder
IRC:SP-84	Manual of Specifications and Standards for Four Laning of Highways
IRC:SP:112	Manual for Quality Control in Road and Bridge works
IRC:SP:124	Model Contract for Maintenance of Roads (Based on single Percentage Rate)

ii. MoRTH Specifications for road & bridge works (5th revision)

iii. Different Contract Documents including:

a. Preparation of DPR

b. Standard Bidding Documents for EPC, HAM and BOT.

iv. NHs Acts and rules (Acts and Rules related to National Highways in India):

a) NH Act – 1956

b) RFCTLARR Act 2013

c) Forest Conservation Act- 1980

d) Environment (Protection) Act, 1986

e) EIA Notification, 2006 (under EPA, 1986)

f) Wildlife (Protection) Act, 1972

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