ವಿವಿಧ ವೃಂದದ ಹುದ್ದೆಗಳ ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಯ ಪಠ್ಯಕ್ರಮ ವಿವರಗಳು

ಈ ಪರೀಕ್ಷೆಯು ಎರಡು ಪತ್ರಿಕೆಗಳನ್ನು ಹೊಂದಿರುತ್ತದೆ:

1) **ಸಾಮಾನ್ಯ ಜ್ಞಾನದ ಒಂದು ಪತ್ರಿಕೆ ಮತ್ತು**
2) **ನಿರ್ದಿಷ್ಟ ಪತ್ರಿಕೆ**

ಪ್ರತಿಯೊಂದು ಪತ್ರಿಕೆಯ ಗರಿಷ್ಠ ಅಂಕಗಳು 120 ಆಗಿರುತ್ತದೆ ಮತ್ತು ಪ್ರತಿಯೊಂದು ಪತ್ರಿಕೆಯನ್ನು 2 ಘಂಟೆ ಸಮಯದಲ್ಲಿ ಉತ್ತರಿಸಬೇಕಾಗುತ್ತದೆ. ಈ ಎರಡು ಪತ್ರಿಕೆಗಳು "ವಸ್ತುನಿಷ್ಠ ಬಹು ಆಯ್ಕೆಯ" ವಿಧಾನದ್ದಾಗಿರುವುದು (Objective Multiple Choice Type)

- ಸಾಮಾನ್ಯ ಜ್ಞಾನ ಪತ್ರಿಕೆಯು ಸಾಮಾನ್ಯವಾಗಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಪದವಿ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಉತ್ತೀರ್ಣನಾಗಿರುವ ವಿದ್ಯಾರ್ಥಿಗೆ ಇರಬೇಕಾದ ಸಾಮಾನ್ಯ ಜ್ಞಾನಕ್ಕೆ ಸಂಬಂಧಪಟ್ಟ ಕನಿಷ್ಠ ವಿದ್ಯಾಮಟ್ಟಕ್ಕೆ ಸಮನಾಗಿರುವುದು ಮತ್ತು ಇದು ಭಾರತ ಸಂವಿಧಾನ, ಭಾರತದ ಇತಿಹಾಸ, ಮತ್ತು ಸಂಸ್ಕೃತಿ, ಭಾರತದ ಸಾಮಾನ್ಯ ಹಾಗೂ ಆರ್ಥಿಕ, ಭೂಗೋಳ ಶಾಸ್ತ್ರ, ಇತ್ತೀಚಿನ ಘಟನೆಗಳು, ದೈನಿಕ ಜೀವನದಲ್ಲಿ ವಿಜ್ಞಾನ ಮತ್ತು ವಿದ್ಯಾವಂತ ವ್ಯಕ್ತಿಯು ದೈನಂದಿನ ಜೀವನದಲ್ಲಿ ಗಮನಿಸಬಹುದಾದಂತಹ ವಿಷಯಗಳು. ಇವುಗಳ ಮೇಲಿನ ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿರುತ್ತದೆ.
- ಅಭ್ಯರ್ಥಿಗಳು ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಗಳಿಗೆ ಉತ್ತರವನ್ನು ಪೂರ್ಣವಾಗಿ ಕನ್ನಡ ಅಥವಾ ಇಂಗ್ಲೀಷಿನಲ್ಲಿ ಉತ್ತರಿಸಬೇಕು. ಕೆಲವು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರವನ್ನು ಕನ್ನಡದಲ್ಲಿ, ಕೆಲವು ಪ್ರಶ್ನೆಗಳಿಗೆ ಇಂಗ್ಲೀಷಿನಲ್ಲಿ ಉತ್ತರಿಸಬಾರದು.

Syllabus for the competitive examination for recruitment of various cadres

The examination will consist of two written papers, namely,-

1) a paper on General Knowledge and
2) a specific paper

The maximum marks for each paper will be 120. The questions in both the papers will be "Objective Multiple Choice Type". The duration for each paper will be 2 hours.

- The paper on General Knowledge will normally confirm to the minimum standard relating to General Knowledge, expected of a student who has passed Bachelor's Degree Examination of a University and will cover questions on the Constitution of India, Indian History and Culture, General and Economic Geography of India, Current Events, every day science and such matters of every day observation as may be expected of an educated person.

- The candidates may answer this entire paper either in English or in Kannada but they shall not answer some questions in English and some in Kannada.

Syllabus for competitive examination for the post of **Environmental Engineers**

1. GENERAL:

- Global environmental concerns
- Global conventions for environment protection
- Types of pollution - Natural and Man made

- Effects of pollution
- Environmental laws of India

2. WATER

- Standards for water quality - Surface and Ground Water
- Water treatment methods

3. WATER POLLUTION

- Sewage pollution - sources and effects
- Sewage treatment methods
- Design of UGD system/Water Supply
- Design of Sewage Treatment Plant (STP)
- Operation and Maintenance of STP
- Objective and salient features of Water (Prevention & Control of Pollution) Act, 1974.

4. INDUSTRIAL EFFLUENT

- Sources and effects
- Effluent treatment methods
- Design of Treatment Plants
- Operation and Maintenance of ETP

5. AIR POLLUTION

- Air Pollution-Sources and effects
- Ambient Air Quality Standards
- Air Pollution controls systems
- Design of Pollution Control Equipments
- Operation and Maintenance of Air Pollution Control
- Objective and salient features of Air (Prevention & Control of Pollution) Act, 1981.

6. SOLID WASTE

- Municipal Solid Waste
- Source, composition and effects
- Solid Waste Management measures including treatment methods
- Objective and salient features of Municipal Solid Waste (Management & Handling) Rules, 2000.

7.HAZARDOUS WASTE

- Definition, classification and characteristics of Hazardous Waste
- Hazardous Waste Management
- Objective and salient features of Hazardous Waste (Management & Handling) Rules, 1989.

8. NOISE

- Sources and their effects
- Ambient Noise standards
- Noise Control measures
- Objective and salient features of the Noise Pollution (Regulation & Control) Rules, 2000

9. HOSPITAL WASTES

- Types of Bio-medical waste generated in Hospitals
- Treatment and disposal of Bio-medical waste
- Objective and salient features of Bio-medical waste (Management & Handling) Rules 1998.

10. PLASTICS

- Plastic waste source and effects

- Steps to minimize the problem
- Objectives and salient features of Plastic Rules 1999.

11. LAKES
- Importance of lakes and the need for protection
- Lake conservation measures

12. CLEANER PRODUCTION
- Recycle, reuse and recover concept.

13. EIA
- Need and uses of EIA
- Objective and salient features of EIA.

14. ISO 14000 Series Environmental Management Standards
- Types of standards and their uses.

Syllabus for the post of **Junior Engineer (Civil)**

1. SURVEYING

1) Chain surveying
   a) Accessories used in chain surveying
   b) Different operations in chain surveying
   c) Principles of chain surveying
   d) Obstacles in chain surveying
   e) Errors in chain surveying
   f) Cross staff surveying

2. Compass surveying
   a) Types of compass used
   b) Concept of meridian, bearing and its types
   c) Local attraction-causes, detection and correction
   d) Compass traversing
   e) Latitude and departure

3. Levelling
   a) Types of levels and leveling staves

b) Concept of bench mark, back sight, fore sight, intermediate sight, change point and height of instrument
c) Simple leveling and differential leveling
d) Different types of leveling
e) Plotting of longitudinal section and cross section
f) Reciprocal leveling
g) Errors in leveling and precautions to minimize it
h) Concept of contour, uses, methods of contouring, interpolation and reading of toposheets
i) Computation of area using planimeter
j) Computation of area by trapezoidal and Simpson's rule and volume by trapezoidal and prismoidal formula.

4. Theodolite surveying-trigonometric leveling, tacheometry
5. Curves-types, method of setting the curves and method of setting out of buildings and culverts
6. Principles and uses of modern survey instruments like laser level, electronic distance meter and working principle of total station.

2. ESTIMATING AND COSTING

a) Units of measurements, detailed specifications for different works in buildings and analysis of rates for various items in civil engg. Works.
b) Estimate for new building, dismantling and remodeling of a small building, annual repairs for a building, bituminous road, concrete road, slab culvert, pipe culvert, manhole, septic tank

3. ENVIRONMENTAL ENGINEERING AND POLLUTION CONTROL

a) Water supply-necessity, per capita demand and factor affecting it, Water supply sources-intake works and conveyance system
b) Quality of water, purification of water, distribution system and its appurtenances, water supply arrangements in buildings.
c) Flow through pipes, flow through channels, types of pumps, selection of pumps for water supply and its maintenance
d) Sanitary engineering-quality of sewage, sewerage systems, surface and storm water drainage, sewer appurtances, strength and analysis of sewage, sewage treatment and disposal.
e) Sanitation in buildings and sanitary fittings.
f) Solid waste disposal-methods and preparation of compost.
g) Air pollution-causes, effects and its control
h) Noise pollution-its effects on human life and its control.
i) Water pollution-cases, effects and control.
j) Rural water supply and sanitation.

4. CONSTRUCTION MANAGEMENT

a) Construction planning and organization-construction team, construction stage, programme and progress of work, application of CPM and PERT in construction planning, Definition and need of organization (PWD, CPWD, construction corporation and private organization), duties of PWD organization officials and site supervisors, budget provision, administrative approval, technical sanction, schedule of rates, types of estimates and powers of sanction.

b) Contracts and tenders-types of contracts and its merits and demerits, necessity of tender, sealed quotations, EMD and security deposit, opening of tenders, scrutiny of tenders-contract agreement-conditions of agreement-execution of agreement.

c) Inspection and Quality control-principles of inspection-enforcement of specifications-stages of inspection and quality control for earthwork, masonry, RCC, sanitary and water supply services, Testing of structures-non-destructive tests-leak proof and dampness test.

d) P.W system of accounts-main division of government account, consolidated fund, contingency fund, classification of heads-expenditure-revenue-major, minor and detailed head, imprest account, temporary advance, cash book and cheque book maintenance, material account, works account, contractors account and ledgers.

e) Measurement of works and payment of bills-measurement book-recording measurement, premeasurement and check measurement-preparation of bills-first and final bill-lump sum contract bill, hand receipt-checking of bills-modes of payment, completion report.

f) Stores management-classification stores, issues, indents, invoice, bincard, accounting procedure of stores, inspection of stores, surplus stores, sale account, shortages, tools and plants accounts, writing off unserviceable tools.

g) Disputes and Arbitration-possible development of disputes, their reasons and claims, time as essence of contract, delay in execution, breach of contract and rate of additional items-payment of final bills, penalties and arbitration.

h) Safety in construction works-importance of safety, causes and effects of accidents in construction industry, safety measures to be adopted in work sites for excavation, scaffolding, formwork, fabrication and erection, demolition. Safety through legislation, occupational hazards in construction industry.

5. TOWN PLANNING

- Town planning surveys – objects and types of surveys, zoning-necessity, principles and aspects of zoning, Housing-requirements, classification of residential buildings, design of residential areas in cities, Recreation measures-parks, playgrounds and back yards-their space standards, landscape architecture.

- Public buildings-classification, location and design principles. Slums-causes, effects and slum clearing methods.

- Master plan-definition, objects, necessity, data required for a master plan and its implementation.

- Urban design-importance, effects on other disciplines of planning, elements of urban design.

- Building bye laws-objects, important aspects of building byelaws for a typical town.

6. CONSTRUCTION TECHNOLOGY

Foundation, stone masonry, brick masonry, lintels and sunshades, dampness and its prevention, scaffolding, floors and floor finishing, plastering, pointing, fire protection in building, prefabricated construction, acoustics in building, ventilation and air condition and maintenance of building.

7. MATERIALS OF CONSTRUCTION

- Bricks-types, requirements of good bricks, tests on bricks, Cement-types, manufacturing process, storage of cement and tests on cements, Coarse and fine aggregate-their function in concrete, bulking of sand.

- Mortar-types, properties and suitability. Cement concrete-ingredients, different grades, uses and advantage of RCC.

- Timber-classification, defects, preservation, seasoning and conversion of timber into market forms and industrial forms.

- Ferrous and non-ferrous metals, alloy, paint, varnishes and distempers.

- New and waste materials-plasticizers, super plasticizers, water proofing compounds, polymer and polymer concrete, PVC, epoxy.

8. ROADS AND CULVERTS

- Classification of roads, Alignment and survey of roads, Geometry of roads-cross section, camber, gradient, supreelevation, sight distance and curves.

- Highway materials-sub grade soil, stone aggregate and bituminous materials

- Road drainage-surface and sub surface

- Construction and maintenance of earthen roads, WBM roads, bituminous road and concrete roads

- Culverts and causeways-Definition of culvert, types and their elementary aspects, Definition of causeways, classification

9. COMPUTER AIDED DESIGN AND DRAFTING

- CAD work station-Functions introduction to CAD, Working with drafting package, developing 2D drawing of building components, Use of architectural package for building drawing, understanding M.S.word and M.S.Excel software package.

- Definition of a 3D model, Drawing objects in 3D, introduction to W>C.S and U.C.S, solid modeling, Boolean operations, editing in 3D.

- Softwares-AutoCAD, Auto Architect, STADD, Windows, GIS.

I. Electrical Engineering basics & Electrical Engineering material Science

Ohm's Law, Kirchoff's Laws, Network theorems, Electromagnetic Induction-Magnetic circuits – storage batteries – construction, Working – Maintenance of Lead-acid batteries and alkaline batteries. Properties and uses of conducting, insulating, magnetic, dielectric materials. Work-power-energy. Fuses-types.

II. Electrical Machines & Measurements

(a) D.C.MACHINES :- D.C. Generator – construction – working – types – characteristics – emf equation – parallel operation.
D.C. Motors – working – Back emf – torque equation – starters of D.C.motors, Losses & efficiency.

(b) A.C. MACHINES :- A.C. Generator – construction – operation emf – equation – parallel operation. Synchronous motors – operation – effects of exciation V-curves – methods of starting – uses of Synchronous motors. Synchronous motor as a Synchronous Condenser.

(c) 3 phase Induction Motors :- Construction – Principle of operation – torque equation – slip torque characteristics – losses – efficiency – starters – D.O.L., Star-Delta, Autotransformer Starters. Methods of speed control. Single phase & three phase motors for submersible pump sets. Motor starters – types, comparison among different types of starters.

(d) Single phase Induction motors :- Principle of operation of different types of single phase induction motors.

(e) Transformers – Single phase transformers: Construction – operation on noload and operation on load. Regulation – efficiency – all day efficiency – parallel operation – cooling of transformers – Auto transformer – comparison with two –winding transformer – Instrument transformers – current transformers & potential transformers. Three phase transformers.

(f) Measurements – Measurement of resistance, power, energy – Instruments used to measure resistance, voltage, power and energy, Torques, principles used in measurement. Measuring Instruments – Comparison among different measuring Instruments – advantages & disadvantages.

III. Electronic devices, Industrial electronics and Computers

Semiconductors – P & N type, PN junction diode – Zener diode – PNP & NPN Transistor – CB, CC, CE configuration, Comparison, Power supply – Regulated power supply, Applications of UJT, FET, SCR LED, LCD & Phototransistor. Amplifiers, Oscillators, (basic idea only), Basic concepts of communication systems – AM, FM, PM – Fibre optic Communication.
Logic Components : Performance of AND, OR, NOT gates, Arithmetic Logic circuits, Encoders, Decoders, A/D converters D/A converters.
Memory systems: RAM, ROM, EPROM, FLOPPY DISC, MAGNETIC TAPE
Industrial Electronics : Thyristor family, construction, operation, characteristics – converters – Inverters – Timers – (UPS) – Uninterrupted Power Supply. PLC and it's applications.
COMPUTERS: Basics of Computer programming in 'C' Data types, Lexical elements – Looping – Functions – arrays.
Networking : LAN, MAN WAN, OSI Layers, ETHERNET, TOKEN RING
CAD : Basics, commands – applications, preparation of electrical drawings – Draw commands – edit commands – Modify commands Isometric drawing.

IV. Electrical Power Systems

Generation : Generating Stations – working – components – comparison between thermal, Hydro, Nuclear Power station, Non conventional sources of electrical energy.

Transmission : Transmission line parameters, Inductance, capacitance of tr. Line. Performance of short, medium & Long tr. Lines. Regulation, string efficiency – methods of improving string efficiency.

Distribution : Different types of A.C. distribution lines. 3 phase, three wire, three phase, four wire system, comparison.

Cables : Classification – Laying – Grading of cables – Insulation resistance.
Switchgear and protection Circuit breakers and Relays.
Classification : Differential and distance relays solid state relays – Lightening arrestors – Neutral grounding. MOCB, OCB, ACB, Current limiting Reactors.
Substations: Types – M.U.S.S.
Distribution Lines : Faults – Identification and trouble shooting and servicing.
Utilization : Brief idea about heating, welding and Electro plating.
ILLUMINATION : Laws of illumination – types of lamps, lighting schemes for indoor, outdoor, factory and street lighting – requirements of good lighting. Adequate illumination – Design of illumination schemes.

V. Estimating and Specification and Energy Management

Electrical Wiring – types – comparison – specification of materials and fixtures used in electrical installation. Earthing – need – types- domestic, industrial power I.P. set, and distribution lines (LT & HT) I.E. Rules related to above, installations.

Transformer Centres (TC) – Location and capacity of TC. I.E. Rules related to transformer Centre.
Energy Management : Necessity – approaches – General principles – energy audit – need – types of comparison. Electrical Load Management – Energy Management opportunities (EMO) in lighting system, EMO with electric motors. Computers in Energy Management, Testing of electrical installation – relevant IE Rules and IE act. Role of electrical Inspectorate. Procedure for calling tenders terms involved – procedure to process the tenders – brief idea.

Syllabus for the post of **Accountant**

I. Financial Accounting

1. Basics of Accounting:
   Journal Entries, Trial balance, Bank Reconciliation, Preparing Balance sheet, Profit and Loss Account, Receipts & Payments Accounts, Income & Expenditure Accounts.
2. Partnership Accounts: Incorporation, Amalgamation & Dissolution of Partnership firms.
3. Company Accounts;
   Issue of shares/debentures, redemption of shares debentures, incorporation, amalgamation and dissolution of companies, preparing balance sheet and profit and loss account in compliance of Schedule VI.
4. Single Entry System of Accounting:
   Concepts, Preparing Balance sheet & Profit & Loss Account, Income & Expenditure Account from books under Single Entry System of Accounting.

5. Accounting Standards:
   Basic Concepts, Accounting Standards followed in India.

II. Income Tax

1. Basic Concepts:
   Definitions, income, Exemption from tax, chargeability of income, deemed income, accrued income, heads of income, advance tax.
2. Income from Salary
3. Income from House Property
4. Income from Business or Profession
5. Income from Capital gains
6. Income from Other sources.
7. Deemed Income
8. Deductions (Chapter VIA)
9. Rebates & Relief's
10. Tax deduction at source (Duties and responsibilities of drawing officers under the provisions of TDS)
11. Income Tax Assessments.
12. Periodical submission of IT reforms

III. Cost Accounting

1. Basic concepts, advantages, difference between cost accounting and financial accounting.
2. Prime costs & Overheads
3. Marginal costing
4. Standard costing
5. Differential cost, incremental cost, imputed cost, out of pocket cost
6. Process costing
7. Contract costing

IV. Auditing

1. Basic concepts of auditing, difference between auditing & financial accounting.
2. Vouching
3. Company audit
4. Verification of assets & liabilities.
5. Audit Reports
6. Verification of Balance sheet items.
7. Audit & Assurance Standards (AAS)
   Basic concepts, AAS followed in India.
8. Auditing of public finance
   Types and their significance - Statutory audit, Internal audit,
   Post audit, Pre-audit, Concurrent audit, Performance audit and
   Social audit

ಪ್ರಥಮ ದರ್ಜೆ ಕಂದಾಯ ನಿರೀಕ್ಷಕ/ ಪ್ರಥಮ ದರ್ಜೆ ಸಹಾಯಕ ಹುದ್ದೆಯ ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಯ ಪಠ್ಯಕ್ರಮ

- ಸಾಮಾನ್ಯ ಕನ್ನಡ ಅಥವಾ ಸಾಮಾನ್ಯ ಇಂಗ್ಲೀಷ್ ಪತ್ರಿಕೆಯು ಸಾಮಾನ್ಯವಾಗಿ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪದವಿ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಉತ್ತೀರ್ಣನಾಗಿರುವ ವಿದ್ಯಾರ್ಥಿಗೆ ಇರಬೇಕಾದ ಕನಿಷ್ಠ ವಿದ್ಯಾಮಟ್ಟಕ್ಕೆ ಸಮನಾಗಿರುವುದು. ಇದರ ಮೂಲಕ ಅಭ್ಯರ್ಥಿಯ ಕನ್ನಡ/ಇಂಗ್ಲೀಷ್ ವ್ಯಾಕರಣ, ಶಬ್ದ ಸಂಪತ್ತು, ಕಾಗುಣಿತ (Spelling) ಸಮನಾರ್ಥಕ ಪದಗಳು, ವಿರುದ್ಧಾರ್ಥಕ ಪದಗಳು ಇವುಗಳ ಪರಿಜ್ಞಾನ, ಇಂಗ್ಲೀಷ್/ಕನ್ನಡ ಭಾಷೆಯನ್ನು ಅರಿಯುವ ಮತ್ತು ಗ್ರಹಿಸುವ ಅಭ್ಯರ್ಥಿಯ ಶಕ್ತಿಯ ಮತ್ತು ಅದರ ಸರಿಯಾದ ಹಾಗೂ ತಪ್ಪು ಬಳಕೆ ಇತ್ಯಾದಿಗಳನ್ನು ಪರಿಶೀಲಿಸುವ ಅಭ್ಯರ್ಥಿಯ ಸಾಮರ್ಥ್ಯ ಇವುಗಳನ್ನು ಪರೀಕ್ಷಿಸಲು ಉದ್ದೇಶಿಸಲಾಗಿದೆ.
- ಅಭ್ಯರ್ಥಿಗಳು ಸಾಮಾನ್ಯ ಕನ್ನಡ ಅಥವಾ ಸಾಮಾನ್ಯ ಇಂಗ್ಲೀಷ್ ಪತ್ರಿಕೆಗಳಲ್ಲಿ ಯಾವುದಾದರೂ ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಬಹುದು.

Syllabus for the competitive examination for recruitment to the cadre of First Grade Revenue Inspector / First Division Assistants:

- The paper on General English or General Kannada will normally confirm to the minimum standard expected of a student who has passed the Bachelor's Degree Examination of a University. It is intended to test candidate's knowledge of English/Kannada grammar, vocabulary, spelling, synonyms, antonyms, his power to understand and comprehend English/Kannada language and his ability to discriminate between correct usage, etc.

- The candidates may answer either the paper on General English or the paper on General Kannada.