

PUBLIC SERVICE COMMISSION, WEST BENGAL

161A, S.P. MUKHERJEE ROAD, KOLKATA – 700026

Scheme for Screening Test for rectt. to the post of Junior Inspecting Officer under the Finance Department (Revenue), Govt. of W.B.

1. The Screening Test will be taken on the following subjects in both types of test, viz., MCQ type and Descriptive type.

MCQ type: General Studies – 10 marks [10 questions each carrying 1 mark]

Diploma level Electrical Engineering – 70 marks [35 questions each carrying 2 marks]

Descriptive type: English – 20 marks [Paragraph writing or Letter writing or Report

writing and Grammar – all from Class – X standard].

2. Full marks: 100.
3. There will be negative marking for each wrong answer in MCQ type test. 1/4th marks will be deducted for each wrong answer/multiple response.
4. Duration: 1 hour 30 minutes.

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Syllabus for Screening Test for rectt. to the post of Junior Inspecting Officer under the Finance Department (Revenue), Govt. of W.B.

Materials : Conducting, Magnetic, Insulating, Contact, fuse materials, semi conductor.

ELEMENTARY CIRCUIT ANALYSIS :

D.C. Circuit : Star-delta conversion, Thevenin's theorem, Norton's theorem, Superposition theorem.

A.C. Circuit : Single Phase R, L & C Series, Parallel : resonance.

Three Phase : Star & delta connection, three phase 4 wire, neutral current measurement.

Measuring Instruments : D.C. & A.C. Ammeter & Voltmeter; A.C. Wattmeters, Energy meters, Frequency meters, Reactive

Insulation Tester, powermeasurement, maximum demand indicator; testing & errors of energy meters, Megar Earth Megar Tester.

Power Factor : Effects of low power factor; methods of improving power factor.

Motors : Type of D.C. Motors – Speed Control; Induction motors; Different types of starters D.C. & A.C.; Applications of different motors – D.C. & A.C. (single phase, three phase); Selection of motors for various types of load.

Transformers : Single phase, Three phase connection, methods of cooling, oil testing, properties, Auto-transformers, Parallel operation.

O.H. Line : Conductors : Types of poles, stays & struts, type of insulators and their applications; Feeders, distributors, service mains, radial & ring main feeder; primary & Secondary distribution of single phase and poly phase system; line sag on level ground.

Cable : P.I.L.C. & P.V.C. cable, methods of cable laying; cable rating & devating factor.

Protective Devices : Fuses – fuse elements, types; current limiting reactors; Thermal, electromagnetic, Induction type relays; Types of Circuit breakers to principle of operation, Isolators.

Earthing : Domestic installation & motors; pole earthing, Earth resistance measurement; Horn gap & thyrite type lightning arrestor.

Design, Estimating : Design of lighting Scheme in a hall, class room, workshop, electrical installation of machines in a small workshop, estimation of house service connection; design of small transformers upto 100 VA; Rate analysis factor governing it – specification & schedule of work.

Battery : Types of storage battery, different elements, charging methods, maintenance.

Generation : Various conventional & non-conventional sources of energy. Different tariff systems and bill calculation.

Electronics : Different types of transistors – their biasing & action; Amplifier – single stage transistor, multistage. Definition of gain, frequency response, bandwidth. Voltage & power amplifier difference; transformer coupled Class-B push- pull amplifier – advantages & disadvantages, uses, Feed back in amplifier.

Oscillator : Types; functions of filter circuits; different rectifier circuit. Indian Electricity Rules. Extra high voltage, High voltage Switchgears protections. Pumps, lifts, Air-conditioning–Basic principle of operation safety & control.

Conservation of Energy – G.L.S. Lamp – Energy Efficient Lamp. Illumination – Level of Illumination & Measuring.

N.B. The Syllabus is indicative only. Candidates should be prepared to answer any question from essential qualification mentioned in the advertisement for the relevant post.

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