

IIITDM Kancheepuram - Recruitment of Non-Teaching Posts

(Advt.No.IIITDMK/R/3/2019 Dated: 19th June, 2019)

List of Shortlisted Candidates for screening test and Schedule of exams for the post of Junior Engineer (Electrical)

Qualification and experience	B.E / B.Tech. in Electrical / Electrical and Electronics Engineering with 2 years relevant experience. or Diploma in Electrical / Electrical and Electronics Engineering with 5 years experience.
Desirable	<ul style="list-style-type: none">• Experience in electrical maintenance.• Experience in maintenance of electrical utility of Industrial / Commercial /Educational Institutions.• Proficiency in Computer.• Good Supervisory skills with ample technical knowledge

Application Numbers of Shortlisted Candidates	
1903JEE0006	1903JEE0031
1903JEE0014	1903JEE0035
1903JEE0016	1903JEE0036
1903JEE0019	1903JEE0059
1903JEE0024	1903JEE0061

Schedule:

Level 1 exam :	15.12.19 (Sunday) - 10:00 AM	(Reporting Time: 08: 30 AM)
Level 2 exam :	16.12.19 (Monday) - 10:00 AM	<i>Only for candidates qualified in Level 1 exam</i>
Level 3 exam :	16.12.19 (Monday) - 02:00 PM	

Note:

- *All the shortlisted candidates are required to bring original mark sheets (SSLC onwards), degree certificates, experience certificates and valid community certificate (SC/ST/OBC/EWS) at the time of reporting. Employees serving in Govt. Organizations /autonomous bodies are to submit No Objection Certificate from the present employer. Only the Candidates satisfying the requirement will be permitted to attend the written Test.*

Scheme of Examination

I. Levels of Exams:

Level 1:

All the shortlisted candidates shall write screening test carrying maximum of 100 Marks (Objective type).
Maximum duration of exam: 2 hours

Level 2:

It is the subject knowledge test designed to test the candidate's knowledge in the concerned subject of specialization. The questions will be objective/descriptive type carrying maximum of 100 marks.
Maximum duration of exam: 2 hours to 2 hours 30 minutes

Level 3:

It is the trade test to assess the practical knowledge of the candidate in the concerned subject carrying maximum of 100 marks.
Maximum duration of exam: 1 hour 30 minutes

** The standard of questions for the tests will generally be in conformity with education standard prescribed for the post.*

II. Weightage of exams:

Level 1:

Candidates securing the minimum qualifying marks shall be shortlisted for further evaluation process scheduled on the next day. In case of SC/ST candidates, the minimum qualifying marks is relaxable at the discretion of the competent authority. The marks secured in the screening test shall not be taken into account for preparation of final selection list.

Level 2 & Level 3:

Level 2 and Level 3 are of qualifying nature and merit list will be prepared based on the following allocation of weightage.

Level 2 : 60% and Level 3: 40%

*** In case of tie, suitable criteria decided by duly constituted committee will be followed.*

Note:

Success in the examination confers no right of appointment unless the candidate fulfills all requirements of the institute.

Syllabus of Examination

Level 1:

Verbal Reasoning & Aptitude, General English, General Knowledge, Current affairs

Level 2:

Basic concepts : Concepts of resistance, inductance, capacitance, and various factors affecting them. Concepts of current, voltage, power, energy and their units.

Circuit law : Kirchhoff's law, Simple Circuit solution using network theorems.

Magnetic Circuit : Concepts of flux, mmf, reluctance, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration e.g. straight, circular, solenoidal, etc. Electromagnetic induction, self and mutual induction.

AC Fundamentals: Instantaneous, peak, R.M.S. and average values of alternating waves, Representation of sinusoidal wave form, simple series and parallel AC Circuits consisting of R.L. and C, Resonance, Tank Circuit. Poly Phase system – star and delta connection, 3 phase power, DC and sinusoidal response of R-Land R-C circuit.

Measurement and measuring instruments: Measurement of power (1 phase and 3 phase, both active and re-active) and energy, 2 wattmeter method of 3 phase power measurement. Measurement of frequency and phase angle. Ammeter and voltmeter (both moving oil and moving iron type), extension of range wattmeter, Multimeters, Megger, Energy meter AC Bridges. Use of CRO, Signal Generator, CT, PT and their uses. Earth Fault detection.

Electrical Machines : (a) D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. (b) 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase /3 phase transformers. Auto transformers. (c) 3 phase induction motors, rotating magnetic field, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics.

Fractional Kilowatt Motors and Single Phase Induction Motors: Characteristics and applications.

Synchronous Machines - Generation of 3-phase e.m.f. armature reaction, voltage regulation, parallel operation of two alternators, synchronizing, control of active and reactive power. Starting and applications of synchronous motors.

Generation, Transmission and Distribution – Different types of power stations, Load factor, diversity factor, demand factor, cost of generation, inter-connection of power stations. Power factor improvement, various types of tariffs, types of faults, short circuit current for symmetrical faults. Switchgears – rating of circuit breakers, Principles of arc extinction by oil and air, H.R.C. Fuses, Protection against earth leakage / over current, etc. Buchholtz relay, Merz-Price system of protection of generators & transformers, protection of feeders and bus bars. Lightning arresters, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor.

Estimation and costing : Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules.

Utilization of Electrical Energy : Illumination, Electric heating, Electric welding, Electroplating, Electric drives and motors.

Level 3:

Practical test based on the above (Level-2) topics.