

**Indian Institute of Information Technology,
Design and Manufacturing, Kancheepuram**

Ref: IITDM/NT/R/01/2023 dated 16.06.2023

05.10.2023

SYLLABUS FOR THE POST OF JUNIOR TECHNICIAN (ECE)

Levels	Details	Remarks
Level 1	Screening Test (Objective Type)	All Shortlisted Candidates notified
Level 2	Written Test (Descriptive Type)	Only for the Shortlisted Candidates of Level 1 Examination
Level 3	Practical Test	

• **Level 1, Level 2 & Level 3**

Electric circuits: Ideal voltage and current sources, R, L, C, M elements; Network solution methods: KCL, KVL, Mesh analysis; Network Theorems: Thevenin's, Norton's, Superposition and Maximum Power Transfer theorem; sinusoidal steady-state analysis, resonance, balanced three phase circuits, star-delta transformation, power factor in ac circuits.

Transformer: Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, efficiency; Auto-transformer

Analog Circuits: Diode circuits: clipping, clamping and rectifiers. BJT and MOSFET amplifiers: differential amplifiers. Op-amp circuits: Amplifiers, summers, differentiators, integrators, active filters, Schmitt triggers and oscillators.

Digital Electronics: Number representations: binary. Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates, multiplexers, decoders. ADCs and DACs. Computer organization.

Instrumentation: Bridges and Potentiometers, Measurement of voltage, current, power, energy and power factor; voltmeters and multimeters, Phase, Time and Frequency measurement;

Communications: Analog communications: amplitude modulation and demodulation, FM, super heterodyne receivers. Digital communications: PCM, DPCM, digital modulation schemes (ASK, PSK, FSK, QAM), bandwidth, SNR. Fundamentals of error correction.

Note: The list of shortlisted candidates, schedule and instructions to the candidates will be uploaded in the website shortly. The candidates are advised to check the website regularly.



AOL
Registrar
5/10/23