

SYLLABUS LINEMAN GR.I
(Revenue) - Direct Recruitment
(Cat.No: 263/2021)

(Total marks : 100)

PART I : Electrician (50 Marks)

Module -1 (10 Marks)

Electric current and ohms law

Electric circuit, effect of electric current ,e.m.f,specific resistance, series and parallel circuit, ohms law, conductance and conductivity, equivalent resistance,kirchoff's law, temperature coefficient of resistance, potential difference

Module -2 (10 Marks)

Magnetism and electromagnetism

Magnet, classification of magnetic material,solenoid,electromagnet,Faraday's laws of electromagnetic induction, Fleming's rules,lenz's law, self-inductance, mutual inductance, eddy current, hysteresis loss, absolute and relative permeability, dynamically induced emf,statically induced emf,susceptibility

Module – 3 (10 Marks)

Work, power and energy,A.C fundamentals

Power and energy definition, horse power, heating effect ,joules law, pump and efficiency,horse power,Cycle,time period,R.M.S value, average value, form factor, power factor,A.C series circuit,resonance,polyphase

Module -4 (10 Marks)

Cells and batteries

Electrolysis, electro chemical equivalent, primary cells, secondary cells, grouping of cells, lead acid cell,sulphation,sedimentation,parts of lead acid battery, ampere hour efficiency,polarization,nickel alkaline cells, dry cell,leclanche cell

Module -5 (10 Marks)

Wiring & Electrical instruments

Wiring accessories, different systems of wiring, fuse, I.E rules related to wiring, wiring test, earthing, Classification of measuring instruments, damping, moving coil instruments, range extension of meters, energy meter, CT & PT,

PART II : Mechanic Motor Vehicle (50 Marks)

Module 1 (5 Marks)

Workshop Safety Practice & Tools

1. Personal protective equipment (PPE).
2. Safety Signs and Symbols
3. Housekeeping and 5S
4. Types and use of machineries and Hand tools in the workshop
5. Precision Measuring tools

Module 2 (5 Marks)

Basic Electrical And Electronics

1. Elements of electricity
2. Electric circuits
3. AC and DC Measuring instruments
4. Electrochemical cells and Battery
5. Electrical Vehicles basics

Module 3 (5 Marks)

Engine Fundamentals And Components

1. Internal and External combustion engines
2. Classification of IC Engines
3. Basics of Petrol and Diesel Engines
4. Main Engine parts and its functions
5. Firing order and Engine Balancing

Module 4 (15 Marks)

Various Systems Of Engine

1. Main functions and Parts of Cooling System
2. Main functions and Parts of Lubrication System
3. Main functions and Parts of Starting and Charging System
4. Petrol and Diesel fuel injection with electronic control System and sensors
5. Main functions and Parts of Engine intake and exhaust System
6. Main functions and Parts of Emission control System
7. Main functions and Parts of Ignition System

Module 5 (5 Marks)

Transmission And Drive Arrangements

1. Functions and parts of Transmission system
2. Types and working of Clutch and Gearbox
3. Automatic Transmission
4. Gear shifting mechanism
5. Layout of Drive shafts

Module 6 (5 Marks)

Steering And Suspension

1. Functions and parts of Steering and Suspension system
2. Steering gearbox types and Power steering
3. Steering Geometry and Wheel alignment
4. Types of Suspension System
5. Suspension springs, Shock absorber and Axle

Module 7 (5 Marks)

Brakes, Wheel And Tyres

1. Types of Brakes
2. Anti-Lock Braking System
3. Automatic Traction Control

4. Types of Wheels
5. Rim, Tyre and its Size

Module 8 (5 Marks)

Air Conditioning And Engine Trouble Shooting

1. Methods of Heat transfer
2. AC system Components and its functions
3. Engine scan and trouble codes
4. Engine not starting causes and remedies
5. Air bag and Seat Belt

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

