

**DETAILED SYLLABUS FOR THE POST OF
ELECTRICIAN IN AGRICULTURE DEVELOPMENT AND FARMER'S WELFARE
DEPARTMENT / GROUND WATER DEPARTMENT /
KERALA STATE WATER TRANSPORT DEPARTMENT**

(Category No.407/2021, 463/2021 679/2021)

Module - 1

Basic Electricity

Fundamental Of Electricity
Flux and soldering technique
Property of Resistance
Conductor, Insulator, Semiconductor
Types of wires and cables

Module - 2

Ohm's Law

Ohm's law, Kirchoff's law
Effects of variation of temperature on resistance
Chemical effect of electric current
Laws of resistance
Different type of cells
Grouping of cells
Care and maintenance of cell
Buckling, Sedimentation

Module - 3

Magnetism

Classification of magnetic properties
Para, dia and ferromagnetic material
electromagnetism, Fleming's left and right hand rule
MMF, Flux density, Reluctance
Faraday's laws of electromagnetic induction, Len'z law
Capacitor, types and functions

Module - 4

Alternating current and Earthing

Alternating current, Earthing
Types of wiring both domestic and industrial
Grading of cable and wires
Current rating, Testing of installation by megger

Module - 5

DC Machine

DC Generators and Type

emf equation

Description of series, shunt and compound Generator

DC motors and type

Starters 3 point, 4 point and speed control machine

Module - 6

AC Motors, single and 3 phase

AC motors and starters single phase and 3 phase

DOL, Star delta, slip ring motor starter

Auto transformer starter

AC motor pannel wiring

phase sequence

Module - 7

Instruments and Transformers

Measuring Instruments, Indication type and Deflecting types

Controlling torque and Damping Torque

Basic principle of Transformer, emf equation of transformers

parallel operation of Transformers

Cooling, Protective Device

Module - 8

Illumination and Basic Electronics

Illumination – Laws of illumination

Type of lamp, Domestic appliances

Semiconductor – P type, N Type

classification of Diode, Rectifier, Transistor

Module - 9

Power Generation

Generation Source of energy

Various types of power generation

Module - 10

Transmission

Transmission and Distribution
comparison of AC and DC transmission

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