

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 10/2013 (Item No. 4 & 5)
ELECTRICIAN GRADE-II**

**KERALA PUBLIC SERVICE COMMISSION
(CATEGORY NO. 432/2012)**

&

ELECTRICIAN GRADE-II

**PRINTING (GOVT. PRESSES)
(CATEGORY NO. 438/2012)**

PART-I- ELECTRICAL ENGINEERING

1. Electrical safety precautions: Use, care and maintenance of different Hand tools used in electrical engineering Laboratory and work shop- First Aid Practices

2. Basic Electrical Engineering : Basic Atomic structure - Electron theory -Electric current - Potential Difference - Resistance - Law of resistance - Ohm's Law -Classification of Electrical materials - Conductors - Insulators and semi conductors - Insulating materials used in electrical equipment - types, grades and size of insulated wires and cables - use of Standard wire gauge . Selection of cables for electrical engineering applications. Introduction to different types of solders and fluxes. Use of soldering iron and Crimping tools.

3. Electrical Wiring: Electrical signs Letters and symbols approved as per IE rules - specification of common electrical accessories used in electrical engineering lab and workshop- Its specifications. Electrical accessories used in wiring - specifications - simple house wiring, stair case wiring. Hospital wiring, Go Down wiring - Wiring of control panels - Main Board wiring - Electrical circuits and sub circuits. Use of fuse - Different types of Fuses and Cut out -Kit Kat fuse - HRC Fuses - Neutral Links - Circuit breakers used in wiring of Installations - Miniature circuit breakers - Earthing - Earth resistance - types of earthing used in electrical installations - specification and standards of earthing - use of earth tester.

4. Sources of Electrical Energy: Brief description of different sources of electrical energy- Alternators and DC generators (brief descriptions only)- Different types of Generators in AC and DC generation of electricity. Transformers - Types - Basic principle of operation. Electrolysis : Faraday's Law of Electrolysis - Practical Application of electrolysis- Lead Acid Cell -maintenance of Lead Acid Cells.

5. Electrical Motors: Basic Principle of operation-AC and DC Motors-Types-Squirrel Cage Induction Motor, Slip-ring Induction Motor, Synchronous Motor (Basic Principle of operation only)

6. Electrical Instruments: Electrical instruments for AC and DC measurement. Moving coil and Moving iron Instruments - Basic working principle of Ammeter, Volt meter, Wattmeter, energy meter, clip -on Type meter- use of megger insulation tester.

PART-II- FACTS ABOUT INDIA & FACTS ABOUT KERALA

1. FACTS ABOUT INDIA- Geography of India - Physical Features - Climate - Soils - Rivers -Famous Sites - Etc. - Demography - Economic and Social Development-Poverty Alleviation - Economy and Planning- Etc. -History of India - Period from 1857 to 1947 - National Movement - Etc.

2. FACTS ABOUT KERALA- Geographical Facts - Physical Features - Climate - Soils - Rivers - Famous Sites - Etc.

3. RENAISSANCE OF KERALA

Important Events/Movements/Leaders

Brahmananda Swami Sivayogi, Chattampi Swami, SreeNarayana Guru, Vagbhatananda, Thycaud Ayya, Ayya Vaikundar, Poikayil Yohannan (Kumara Guru), Ayyankali, Pandit Karuppan. Mannathu Padmanabhan, V.T.Bhattathirippad, Dr.Palpu, Kumaranasan, Vakkom Moulavi, Blessed Kuriakose Elias Chavara, Etc.

PART-III- SIMPLE ARITHMETICS

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.