

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 10/2017 (Item No.14)**

**DRAFTSMAN GRADE II
GROUNMD WATER DEPARTMENT**

(CATEGORY NO. 443/16)

Part I General Knowledge, Current Affairs and Renaissance
in Kerala

General Knowledge

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

Five Year Plans

Facts about Kerala

Geographical Facts – Physical features – Climate – Soils – Rivers – Famous sites – Economic and Social deve – Historical importance - etc.

Renaissance in Kerala

Important Events/Movements/Leaders

Brahmananda Swami Sivayogi, Chattampi Swami, Sree Narayana 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.

Current Affairs

Important world, national and regional events related to the political and scientific fields, sports, cinema and literature etc

Part II(a) CIVIL ENGINEERING

Module – I (BUILDING MATERIALS)

Rocks, Stones, Bricks, Lime, Cement, Clay Products, Mortar, Concrete, Timber, Admixtures, Protective Materials like Paints, Varnishes, Metals, Plastics

Module – II (BUILDING CONSTRUCTIONS)

Soil, Foundation, Brick Masonry, Stone Masonry, Composite Masonry, Scaffolding, Shoring, under pinning, Damp proofing materials, Anti-Termite Treatment, Weathering Course, Fire Proofing, RCC, Arches, Lintels, Roofs, Stairs, Doors and Windows, Floors

Module – III (WORKSHOP CALCULATION AND SCIENCE)

Shear force and bending moment, Heat Treatment, Magnet and Magnetism, Calculation of Areas and Volumes by using Trapezoidal Rules, Simpsons Rule, Mensuration, Simple Stress and Strain, Work, Power, Energy

Module – IV (PLANNING AND DESIGNING AND ESTIMATING AND COSTING)

Units of measurements and payments, Schedule of rates, Analysis of rates, Building Specification, Building Rules and Bye Laws, Building Planning Preferable Structure concepts of designing, Earthquake Resisting Building

Part II(b) : MECHANICAL ENGINEERING

Module – 1

Drawing instruments and equipments, Layout of drawing sheets as per BIS, Types of lines and their uses, Terms and definition of polygon and circles, Definition and Construction of engineering curves, Dimensioning technique, System of dimensioning, Lettering, Scales-Plane scale, Diagonal scale, Vernier scale, Comparative scale, Scale of chords.

Module-2

Projections – of points lines solids, Orthographic projection, Isometric projection, Oblique projection, Perspective projections.

Sectional views-Full section, Half section and all other sections

Different types of section lines and abbreviations as per BIS

Intersections and Interpenetrations of curves, prism, cones, pyramids

Module -3

Screw threads with BIS conventions, Types of nuts and washers, Foundation bolts and Locking arrangements, Types of Keys, Cotters, Rivets, Riveted joints

Allied trade - Fitting Hand tools and equipments measuring instruments and gauges

Welding -methods,Types of welding , tools and equipments,

Machine shop-various machines, tools and equipments, various process

Sheet metal-Tools and equipments, Different joints

IC engines, pumps, turbines

Module-4

Basic computer languages excel,word, Auto CAD , solid works-

Pipe joints, fittings, valves,press,accumulator safety valves in boilers. Pulleys, belts, ropes, numbering of drawings and standard parts. Familiarization with SP. 46-2003

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.