

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME No. 11/2019 (Item No.16,17,18,19,20)**

**DRAFTSMAN GRADE III (CIVIL)/
OVERSEER GRADE III (CIVIL)/TRACER**

HARBOUR ENGINEERING DEPARTMENT

(Category No.085/2018, 247/2018, 305/2018,306/2018,347/2018)

BASIC ENGINEERING DRAWING

Drawing instruments, equipment and materials

Lettering, dimensioning and scale

Plane geometrical construction

Conic section and projection

SURVEYING

Conventional surveying

Introduction and terms used in chain, compass, plane table and leveling survey

Principle of leveling, Type of leveling, Reduction of levels

Contouring ,Theodolite survey

Modern and advanced surveying instruments

BUILDING MATERIALS AND CONSTRUCTION

Stone, Brick, Tiles, Cement, Lime and filler materials

Plane cement Concrete, Reinforced cement concrete

Timber

Foundation, Masonry, Roofing, Flooring

Building finishes and services

Temporary structural treatment for building construction

BUILDING DRAWING AND ESTIMATING

Building rules and byelaws

Estimation, Rules and methods of measurements of work

Rate analysis and valuation

HYDRAULICS AND IRRIGATION

Terms used in Irrigation

Storage and diversion head works

Reservoir, dam, canals, Cross drainage work

Properties of fluid

Measurement of pressure

Type of Hydraulic energy [10mark]

UNITS AND MENSURATION

Units of measurements

Measurement of Perimeter and Area of triangles Polygons and circles

Volume of Solids

APPLIED MECHANICS

Simple machines:-Load and effort, Mechanical advantage, Velocity ratio, efficiency

Work power and energy

Simple stress and strain

Friction, Shear force and bending moment

Speed and velocity

AUTOCAD

Introduction to AutoCAD

Basic commands

Drawing toolbar and modifying toolbar

Plotting and printing

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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