SYLLUBUS FOR TRADESMAN (MASONRY)

Category No. 768/2021

MODULE – 1 (5 Marks)

OCCUPATIONAL HEALTH SAFETY AND ENVIRONMENTALEDUCATON

Occupational safety, health, occupational hazards, Fire safety, Accident, First aid, Environment and Ecosystem, Pollution and Pollutants, Conservation of energy, Global warming, Ozone depletion layer.

MODULE – 2 (15 Marks)

ENGINEERING DRAWING

Types of drawing, Drawing instruments, Equipments, Materials and their uses, Layout of drawing sheet, Freehand sketch lines, Lettering, Dimensioning, Plane geometrical construction, Types of angles, Triangles and their properties, Quadrilaterals, Polygons and their properties, Circles, Scale – Types, Projection – First angle and Third angle, Projection of points, Line, Plane, Solids, Geometrical solids, Isometric projection – Isometric angles, Isometric scale etc...

MODULE – 3 (20 Marks)

BUILDING MATERIALS

Properties of materials – Physical, Mechanical, Electrical, Magnetic and Chemical, Building stone – Classification, Characteristics, Testing, Quarrying, Dressing, Artificial stone, Natural bed of stone etc , Clay products – Brick, Tile, Stoneware, Earthern ware, Terra

cotta, Porcelain, Lime, Cement, Sand, Plain cement Concrete - Ingredients, selection of materials, various ratio of mix, their uses, measuring of materials for mixing, slum test, Hand and machine mixing of concrete, laying and curing of concrete, water cement ratio, Sand and Mortar, Timber and wood products, Plastics, Tar, Bitumen asphalt, Protective materials – Paints, Varnish, Distumber, Metal and alloys.

MODULE – 4 (25 Marks)

BUILDING CONSTRUCTION

Foundation – Site exploration, Bearing capacity of soil, Shallow foundation, Deep foundation, Types of piles , Setting out foundation, Temporary structure - shoring, Scaffolding, under pinning, Formwork, Timbering for trenches, Damp proofing, Plastering, Termite proofing, Fire proofing, Thermal insulation,

Masonry – Brick masonry, Stone masonry, technical terms, Materials, tools and equipments used, bond etc, composite masonry

Carpentry joint – technical term, classification and joints

Doors and Windows – Size of doors, door frame, Type of doors and windows, size of window, classification of window

Lintels and Arches – Type of Arches, Technical terms, Classification of Arches, Material used for construction, Lintels – Purpose and types

Stairs – Technical terms, Material used planning and designing of stair, Details of construction of various stair

Floors – Component of Floor, Ground floor, Upper floor, Flooring – Types and its laying process (Terros, Concrete, Granite, Marble, Tiles, Rubber, and Wooden)

Roof and roof covering – Technical terms, Classification, Materials.

RCC Work – Introduction of RCC, Materials, Mixing, laying compacting, curing ,thump rule for percentage of reinforcement for lintels, slaps, beams and columns, Necessity of hook and cramping, Formwork, Reference of IS Code, Brief description of slabs, beams, lintels, stairs, columns etc...

MODULE – 5 (5 Marks)

WATER SUPPLY SYSTEM

Average water consumption for various building, Water distribution in a domestic building, water treatment, hydroelectric power plant

MODULE – 6 (10 Marks)

SANITATION AND DRAINAGE

Sanitation, Terms used in Public Health Engineering, System of sewerage – One pipe system, Two pipe system, Single stack system, Anti synphonage pipe, Types of traps, Sanitary fitting – WV, urinals, Sinks, WCs,

Septic tank sand Storm water drainage, Sewage treatment – Primary treatment, Secondary treatment.

MODULE – 7 (5 Marks)

BUILDING PLANING AND DRAWING

Terms used, Building types- Occupancy Classification, Building bye-laws, Location and areas of rooms.

MODULE – 8 (5 Marks)

ARCHITECTURAL

Architectural terms used in connection with classical moldings such as, architrave, apex etc..

MODULE – 9 (5Marks)

CALCULATION

Decimals and fractions, Units and measurements, Squares and square root, percentage and average, Problems on areas, Volume of brick work, volume of stone and concrete work, Mensulation applied area of marble work, calculation of length and weight of steel reinforcement, calculation of quantities of cement, sand, aggregate and reinforcement for a given RCC work, calculation of quantities of various materials for brick, tiles, cement, concrete, terros of chlorine, quantities of materials required for skirting, calculation of length of

drainage pipe and material for foundation and covering concrete, calculation of materials required for a manhole from given drawing,

MODULE – 10 (5 Marks)

SCIENCE

Material science, mass weight and volume, density, heat and temperature, trigonometry