

SUBJECT NAME – CONSTRUCTION TECHNOLOGY II

SUBJECT CODE – 3326203

FOCUS:

Introduction to types of building materials – natural and manmade and their choices in terms of properties, structural and non-structural. To acquaint the students with all building components.

CONTENTS:

- **MATERIALS**
 - Timber – Quality of timber used in building, defects, seasoning and preservation of timber, types – Natural, hard and softwood, uses of timber for aesthetic & structural purpose
 - Uses of commercial wood in building i.e., plywood, block boards, particleboards, veneers and laminates and other types. Manufacturing processes in brief, their properties and application.
 - Introduction to types, properties, uses and application of non – ferrous metals and glass.

- **CONSTRUCTION**
 - Types of footings and shallow foundations.
 - Walls:
 - Different types of walls and their Construction details
 - Various types of wall finishes, like plastering, painting, cladding, jointing, & pointing etc and their applications.
 - Staircases:
 - Types & construction details of staircases in different materials.
 - Openings:
 - Different types of doors, windows, ventilations and skylights in different materials. and their operational and fixing details.
 - Types & details of building elements like weather shed, balcony, canopy & pergolas.
 - Timber Floors – Single, double and framed floors with joints between joist with wall plate, joist with beam and sub beam with main beam, strutting of joists, use of templates, for support.
 - Timber Trusses – King post and queen post trusses with details of joints, alternative arrangements for tile and sheet roof covering, detail of eaves projection with soft boarding, Alternative detail of gutter at eaves, sprocket joint.

- **SERVICES**
 - **Water supply**
 - Introduction
 - Assessment of water requirements
 - Sources and collection - Sources of supply, Bore wells
 - Purification – Treatment, Water treatment in swimming pools
 - Distribution - Distribution systems, Pipes – laying and jointing, Water pipes – materials(GI, PVC, CPVC/ UPVC pipes, introduction to Copper plumbing), Pipe Accessories, Storage tanks, Pumps

- Water conservation - Rain water Harvesting, Recharging, Recycling and reuse application in planning water supply systems (Urban& rural)
- **Sanitation and Drainage**
- Introduction - Collection and conveyance of Refuse
- House drainage
- Sewers
- Traps
- Sanitary Fittings
- Sewer Accessories
- Disposal and Treatment for urban and rural context - Sewage Treatment, Septic Tanks, Waste and Storm Water Drainage System, Rural sanitation
- **Solid waste management- Types of Garbage,disposal & management – landfills& treatment**
- Site visits on Water treatment plant, sewage treatment plant, multistoried apartments for studying water supply and sanitary arrangements.

SUGGESTED BOOKS

- Construction Building by I , R. Barry
- Building Construction by II, W. B. Mckay
- Building Materials and Components by CBRI Roorkee
- Engineering Materials by Rangwala
- Building Construction by Arora S.P. & Bindra S.P.
- Handbook of Architectural Technology by Cowan Henry J
- Fundamentals of Building Construction by Allen Edward
- National Building Codes
- Sanitary Engineering – (Vol I and II) by RS Deshpande
- Water Supply and Sanitary Engineering by S Birdii
- Water Supply and Sanitary Engineering by Charanjit S Shah (Arch. Handbook series)
- Relevant IS Codes of India
- Water Supply and Sanitary Engineering by S.C. Rangwala