RMN7D005   **Dimensional Stone Mining**

Module-I: **(10hours)**

Resources of Marble, Granite, Slate, Sandstone and Limestone as Dimensional stones in India vis a vis world, uses, marketing, export. Geological, mineralogical and physico-mechanical properties of dimensional stones; Criteria for selection of dimensional stone deposit. Procedure for obtaining mining lease and preparation of project proposal.

Module-II: **(10 hours)**

Mining: Conventional mining of Sandstone, Limestone, Marble and Granite; Recent developments-wire saw including blind cut technique, chainsaw, belt saw, hydraulic splitting, flame jet cutting, water channeling etc; Blasting techniques in dimensional stone mines: various types of explosives used, controlled blasting for providing horizontal & vertical cut; Splitting by swelling material.

Module-III: **(10 hours)**

Insitu splitting technique used in compact limestone (Kota stone) for utilization of waste as dimensional stone. Various types of loaders, cranes and hydraulic excavator used in dimensional stone mines; Quarry layouts. Hole making technique using hole-finder and laser beam. Application and development of diamond tools, formation of stone block and their handling.

Module-IV: **(10 hours)**
Processing: Dressing- Mono block dresser; Sawing- gang saws, circular saws; Preparation and mounting of blades/discs and segments; 94 slab repair by resin Polishing - Manual, Mechanical; Various types of polishing machines; Abrasives- type, use and selection, shaping; Tile preparation; Automatic tiling plant, slurry handling and treatment including water supply; Multiwire technology. Environmental impacts of mining and processing of dimensional stones; Secondary use of quarried land and waste of the industry; Land reclamation.

Books:
[1]   Dimensional Stone Technology by S S Rathore, G S Bhardwaj & S C Jain, Himanshu Publications, New Delhi
[2]   India Stones, Business Magazine on Indian Stone Industry, Pub. ICONZ Communications, 203, Mahaveer Residency, 15 Main J. P. Nagar, 5th phase, Bangalore