

MODULE A Management

| PACKAGE | CODE | CORE SUBJECTS & SUBJECTS | DURATION |
|--|--------|---|----------|
| PACKAGE A1: Regulatory Requirement | RR1-1 | Environmental Quality Act | Half Day |
| | RR1-2 | Sewerage Services Act | |
| | RR1-3 | Licensing of Contractors | |
| | RR1-4 | Product Registration | |
| | RR1-5 | Compounding of Offences Regulation | |
| | RR1-6 | Charges Regulation | |
| | RR1-7 | Standard & Guidelines | |
| PACKAGE A2: Human Resource Management | HRM1-1 | Labour Law | Half Day |
| | HRM1-2 | Industrial Relation Act | |
| | HRM1-3 | Foreign Workers Registration | |
| | HRM1-4 | SOCISO / EPF | |
| | HRM1-5 | Training | |
| PACKAGE A3: Health & Safety and Environment Management System | HS1-1 | Introduction to HSE | 1 Day |
| | HS1-2 | Legislation (OSHA & FMA) and Related Regulation | |
| | HS1-3 | Principles and Risk Management | |
| | HS1-4 | Construction Hazards and Safe System at Work | |
| | HS1-5 | HSE Management System Elements | |
| PACKAGE A4: Contract Administration | CA1-1 | Overview | 1 Day |
| | CA1-2 | Contract Conditions | |
| | CA1-3 | Form of Contract | |
| | CA1-4 | Contract Administration-Overview | |
| | CA1-5 | Contract Administration-Post Contract Stage | |
| | CA1-6 | Sub-contract Administration | |
| | CA1-7 | Ethics | |
| PACKAGE A5: Construction Management | CM1-1 | Planning and Scheduling | 1 Day |
| | CM1-2 | Material Management and Inventory Control | |
| | CM1-3 | Site Security | |
| | CM1-4 | Surveying and Setting Out | |
| | CM1-5 | Managing Sub Contractors | |
| | CM1-6 | Quality Awareness | |
| | CM1-7 | Specification | |

MODULE B Treatment Process Concepts

| PACKAGE | CODE | CORE SUBJECTS & SUBJECTS | DURATION |
|-------------------------------------|--------|---|----------|
| PACKAGE B1: Treatment Processors | TP1-1 | Introduction | 2 Days |
| | TP1-2 | Imhoff Tank | |
| | TP1-3 | Pond Systems | |
| | TP1-4 | Preliminary & Primary Treatments | |
| | TP1-5 | Secondary Treatments | |
| | TP1-6 | Suspended Growth Systems i) Conventional Activated Sludge ii) Contact Stabilisation Activated Sludge iii) Extended Aeration Activated Sludge iv) Oxidation Ditch v) Sequential Batch Reactor | |
| | TP1-7 | Fixed Film Process i) Rotating Biological Contactors, RBC ii) Trickling Filters | |
| | TP1-8 | Secondary Clarifier | |
| | TP1-9 | Tertiary Treatment | |
| | TP1-10 | Disinfection | |
| | TP1-11 | Testing & Commissioning of Systems | |
| PACKAGE B2: SLUDGE PROCESS | SP1-1 | Primary Treatment | 1 Day |
| | SP1-2 | Sludge Thickening | |
| | SP1-3 | Sludge Stabilisation | |
| | SP1-4 | Sludge Drying Beds | |
| | SP1-5 | Sludge Lagoons | |
| | SP1-6 | Sludge Mechanical Dewatering Systems | |
| | SP1-7 | Sludge Conveyance | |
| | SP1-8 | Odour Control Facility | |
| | SP1-9 | Tankers Sludge Facility | |
| | SP1-10 | Sludge Disposal Procedures | |
| | SP1-11 | Digestors | |

COURSE CONTENT

MODULE C Mechanical & Electrical

| PACKAGE | CODE | CORE SUBJECTS & SUBJECTS | DURATION |
|---------------------------|-------|---|----------|
| PACKAGE C1: ELECTRICAL | E1-1 | Basic Electricity | 2 Days |
| | E1-2 | Circuits, Panel Switchgears, Circuit Breaker and Starters | |
| | E1-3 | Cables and Wiring Regulations | |
| | E1-4 | Earthing and Lighting | |
| | E1-5 | Electrical Circuit Drawing | |
| | E1-6 | Electrical Motors | |
| | E1-7 | Standby Supply | |
| | E1-8 | SCADA & PLC | |
| | E1-9 | TNB Supply and Temporary Supply | |
| | E1-10 | Installation Procedures, Testing and Commissioning of Electric Panels | |
| PACKAGE C2: MECHANICAL | M1-1 | Reads and Understand Mechanical Drawings and Construction | 1 Day |
| | M1-2 | Installation Procedures for Non-Sewer Pipework | |
| | M1-3 | Pumping Systems and Equipment | |
| | M1-4 | Motors and Drives | |
| | M1-5 | Surge Suppression Systems and Equipment | |
| | M1-6 | Screening Facilities | |
| | M1-7 | Grit and Grease, Screening Disposal Systems | |
| | M1-8 | Aerators, Aeration Systems and Equipment | |
| | M1-9 | Clarifier Equipment | |
| | M1-10 | Disinfection Systems and Equipment | |
| | M1-11 | Flow Measurement Systems and Equipment | |
| | M1-12 | Alarm System and Fire Protection | |
| | M1-13 | Lifting Facilities | |
| | M1-14 | Odour Control Systems and Equipment | |
| | M1-15 | Force Ventilation Systems | |
| | M1-16 | Vacuum system & Equipment | |
| | M1-17 | Sludge Dewatering System and Equipment | |

MODULE D Civil and Structural

| PACKAGE | CODE | CORE SUBJECTS & SUBJECTS | DURATION |
|---|-------|--|----------|
| PACKAGE D1: SEWER NETWORK | SN1-1 | Sewer Alignment, Installation, Handling & Storage | 1 Day |
| | SN1-2 | Sewer Manhole and Applications | |
| | SN1-3 | Trenching, Shoring, Backfilling and Reinstatement | |
| | SN1-4 | Utility Survey and Traffic Management | |
| | SN1-5 | Sewer Testing and Commissioning | |
| | SN1-6 | Soil Investigation Report | |
| | SN1-7 | Household Connection | |
| | SN1-8 | Vacuum Sewer | |
| | SN1-9 | Other Techniques e.g. Pipe Jacking, Trenchless Pipe Laying | |
| PACKAGE D2: TREATMENT WORKS STRUCTURES | TW1-1 | Setting Out | 1 Day |
| | TW1-2 | Soil Investigation Works | |
| | TW1-3 | Foundations | |
| | TW1-4 | Excavations, Shoring and Backfilling | |
| | TW1-5 | Reinforcement and Concrete Works | |
| | TW1-6 | Water Proofing and Lining | |
| | TW1-7 | Surface Finishes (Plastering, Painting etc.) | |
| | TW1-8 | Infrastructure Works | |
| | TW1-9 | Outfall Protections | |