

Structure Of Elevator

Unit I: Introduction to Vertical Transportation

SL. No	Topic	Hours
1	Course Objectives: Introduction to Vertical Transportation	2
2	History & Evolution of Elevators, Escalators & Walkways	2
3	Types of Vertical Transportation (Elevators, Escalators, Walkways)	1
4	Types of Elevators – Hydraulic Elevators & Traction Elevators	1
5	Introduction to Components of Elevators -Drive machine & Brakes	3
6	Basics of Electrical concepts in VT – current, voltage etc.	1

Unit II: Basic Engineering Principles

SL. No	Topic	Hours
7	Types of Control System Basics	1
8	Traction Elevator - Traction Ropes, deflector sheave	3
9	Counter weight, weight balancing	2
10	Guide rail system – Rails, Brackets, Clips.	2
11	Door system – Types, based on mechanism	2
12	Elevator drive system – VVVF, Regenerative Drive	1

Assessment: Test or MCQ – 2 hours

Unit III: Elevator System

SL. No	Topic	Hours
13	Specialized system – Troubleshooting & diagnostic	2
14	Sensors – Door Sensors, Load Sensors	2
15	Sensors – Position Sensor, Speed Sensor.	2
16	Safety Standards – Overspeed Governor, Safety Gears	4
17	Door Safety – Interlocks, Auto Rescue Device, Buffers	2
18	Practical Application -System Integration in Elevators.	2

Assessment: Test or MCQ – 2 hours

Unit III (Continued): Elevator System

SL. No	Topic	Hours
19	Emergency Systems – Backup Power, Communication Systems	2
20	User Interface – COP (Car Operating Panel) & LOP (Landing Panel)	2
21	Emergency Communication Systems – Use & Importance	1

MOCK INTERVIEW – 2 hours

Total 46 hours with assessments

Vertical Transportation Safety

Unit I: FOUNDATION & GENERAL SAFETY

SL. No	Topic	Hours
1	Introduction to Safety: Why It Matters in the Lift Industry	1
2	Employee Responsibilities & Unsafe Practices	1
3	Role of Mechanic-in-Charge & Safety Coordination	1
4	Emergency Evacuation Procedures	2
5	Site Safety Inspections & Hazard Identification	1

Unit II: PPE & FALL PROTECTION

SL. No	Topic	Hours
6	Introduction to PPE (Helmet, Shoes, Gloves, etc.)	2
7	Eye, Face, and Hearing Protection	1
8	Fall Hazards: How to Prevent Them	2
9	Fall Arrest Systems: Harness, Lifeline, Anchorage	1
10	Barricades & Guardrails: Installation & Use	1

Assessment: Test or MCQ – 2 hours

Unit III: ELECTRICAL & MECHANICAL SAFETY

SL. No	Topic	Hours
11	Electrical Safety: General Do's and Don'ts	2
12	Arc Flash Protection & PPE for Live Circuits	1
13	Safe Meter Use & Troubleshooting Procedures	1
14	Lockout and Tagout: When and How	1
15	Jumper Use: Proper Practices & Dangers	1

Assessment: Test or MCQ – 2 hours

Unit IV: WORK PRACTICES & EMERGENCIES

SL. No	Topic	Hours
16	Working Safely in Hoist ways & Machine Rooms	2
17	Portable Tools, Ladders & Scaffolds	1
18	Safe Material Handling & Lifting Techniques	1
19	Fire Safety, Chemical Hazards, & HAZCOM	1
20	Job Hazard Assessment (JHA) – Practical Session	1

Mock Interview – 2 hours

Total – 31 classes with assessment

Installation in Vertical Transportation

Installation Prerequisites

SL. No	Topic	Hours
1	Lab Orientation and Introduction to Lab Tools	2
2	Safety while Installation – lifeline	2
3	Drilling Operations	2
4	Welding Operations	2
5	Introduction to measurements in VT	2

Installation Step and Procedures

SL. No	Topic	Hours
6	Introduction to Installation Drawing	4
7	Template Installation	4
8	Spanning – Bracket Installation and alignment	2
9	Rail installation and Alignment	8
10	Landing Door installation and alignment	4

Installation Step and Procedures

SL. No	Topic	Hours
11	Counter weight Installation & Roping	4
12	Car Installation	4
13	Drive Machine Installation	4
14	Pit Equipment Installation	8
15	OSG Installation	4
	Assessment	4

Testing & Commissioning

SL. No	Topic	Hours
16	Basic start up Procedure of Elevator	4
17	Inspection Operation Procedure	4
18	LOTO Procedure, Balancing procedure – load test, limit Switch	4
19	Car door, Landing Door Setting, Door Vane Setting	4
20	Field test Data report Presentation	4
	Assessment	4

Total - 84 hours with assessment



BHARATH SCHOOL OF VERTICAL TRANSPORTATION

Affiliated to VTU 

COURSE HOUR DISTRIBUTION

- **Structure = 46 hours**
- **Safety = 31 hours**
- **Installation = 84 hours**
- **Soft Skills = 10 hours**
- **Basic computer literacy = 10 hours**
- **Revision = 19 hours**

Total = 200 hours