Construction Management

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1. Introduction

- **Construction management:** the planning, coordination and control of a construction project from inception to completion.
- It aims to deliver projects on time, within budget and to required quality and safety standards.

2. Key Functions

- **Scope management:** defining the work required and controlling changes.
- **Scheduling:** sequencing tasks using tools such as critical path method (CPM) and Gantt charts.
- **Cost control:** estimating, budgeting and monitoring expenditure against the plan.

3. Project Phases

- Pre-construction covers feasibility, design coordination and procurement.
- Construction involves site mobilisation, supervision and progress monitoring.
- Closeout includes commissioning, handover and final documentation.

4. Stakeholders and Delivery

- Key parties include the client, architect, engineers, contractor and subcontractors.
- **Delivery methods:** design-bid-build, design-build and construction management at risk.
- Contracts allocate responsibility, risk and payment terms among parties.

5. Risk and Quality

- Risk management identifies, assesses and mitigates threats to cost, time and safety.
- Quality assurance and control ensure work meets specifications and codes.
- Health and safety compliance protects workers and limits liability.