



**INSTITUTE OF CONCRETE TECHNOLOGY**  
**CONCRETE TECHNOLOGY & CONSTRUCTION**  
**Stage 2: GENERAL PRINCIPLES**  
**Syllabus**

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|---|--|
| <b>2.00.00</b>  | <b>Introduction to the course</b>                            |
| <b>2.01.00</b>  | <b>Health and safety</b>                                     |
| <b>2.02.00</b>  | <b>Sustainability</b>  |
| <b>2.03.00</b>  | <b>Portland cements and additions</b>                        |
| <b>2.04.00</b>  | <b>Non-Portland cements</b>                                  |
| <b>2.05.00</b>  | <b>Natural aggregates</b>                                    |
| <b>2.06.00</b>  | <b>Light-weight and heavy-weight aggregates and concrete</b> |
| <b>2.07.00</b>  | <b>Admixtures</b>  |
| <b>2.08.00</b>  | <b>Mixing water</b>  |
| <b>2.09.00</b>  | <b>Steel for reinforcing and prestressing</b>                |
| <b>2.10.00</b>  | <b>Fibre-reinforced concrete</b>                             |
| <b>2.11.00</b>  | <b>Fresh concrete</b>  |
| <b>2.12.00</b>  | <b>Hardened concrete - behaviour under load</b>              |
| <b>2.13.00</b>  | <b>Hardened concrete - dimensional changes</b>               |
| <b>2.14.00</b>  | <b>Hardened concrete - durability</b>                        |
| <b>2.15.00</b>  | <b>Testing fresh and hardened concrete</b>                   |
| <b>2.16.00</b>  | <b>Quality control – statistical methods</b>                 |
| <b>2.17.00</b>  | <b>Specification</b>   |
| <b>2.18.00</b>  | <b>Mix design</b>  |
| <b>2.19.00</b>  | <b>Storage, batching and mixing</b>                          |
| <b>2.20.00</b>  | <b>Concrete production and supply</b>                        |
| <b>2.21.00</b>  | <b>Ready-mixed concrete</b>                                  |
| <b>2.22.00</b>  | <b>Operation and maintenance of plant</b>                    |
| <b>2.23.00</b>  | <b>Management</b>  |
| <b>2.24.00</b>  | <b>Formwork and Falsework</b>                                |
| <b>2.25.00</b>  | <b>Reinforced concrete</b>                                   |
| <b>2.26.00</b>  | <b>Prestressed concrete</b>                                  |
| <b>2.27.00</b>  | <b>Precast concrete</b>                                      |
| <b>2.28.00</b>  | <b>Transporting and placing</b>                              |
| <b>2.29.00</b>  | <b>Compaction and finishing</b>                              |
| <b>2.30.00</b>  | <b>Curing</b>  |
| <b>2.31.00</b>  | <b>Joints</b>  |
| <b>2.32.00</b>  | <b>Concrete finishes</b>                                     |
| <b>2.33.00</b>  | <b>Concrete roads</b>  |
| <b>2.34.00</b>  | <b>Ground slabs</b>  |
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