

# Technical Report Route for Incorporated-membership

## Checklist / Self-assessment for output standards

Candidate Name:

Membership Number:

IM Technical Report C:

Technical Report Title:

Date of the first Submission:

Date of supplementary submission  
(if applicable):

|          | Output Standard                                                                                                                               | Partially met | Fully met | Paragraph number |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------------|
| <b>A</b> | <b>Underpinning Science and Mathematics</b>                                                                                                   |               |           |                  |
| A1       | Show an understanding of trigonometrical functions and their application to construction problems.                                            |               |           |                  |
| A2       | Apply calculus to the solution of problems of area, volume and deflection.                                                                    |               |           |                  |
| A3       | Apply calculus to the solution of problems in maxima and minima                                                                               |               |           |                  |
| A4       | Show an ability to transpose formulae.                                                                                                        |               |           |                  |
| A5       | Show an understanding of the science of materials used in construction.                                                                       |               |           |                  |
| A6       | Show an understanding of the behaviour of soils and soil mechanics.                                                                           |               |           |                  |
| <b>B</b> | <b>Engineering Analysis</b>                                                                                                                   |               |           |                  |
| B1       | Apply quantitative methods and computer software.                                                                                             |               |           |                  |
| B2       | Apply hand computation and computer software to the solution of structural engineering problems of beams, columns, frames, and substructures. |               |           |                  |
| B3       | Apply hand computation and computer software to the solution of structural engineering problems in two major structural materials.            |               |           |                  |
| B4       | State how aspects of a super structure could have been engineered differently to effect improvements.                                         |               |           |                  |
| B5       | State how aspects of a substructure could have been engineered differently to effect improvements.                                            |               |           |                  |
| <b>C</b> | <b>Design</b>                                                                                                                                 |               |           |                  |
| C1       | Select a project/s and define the problem/s.                                                                                                  |               |           |                  |
| C2       | Select a project/s and identify the constraints.                                                                                              |               |           |                  |
| C3       | Prepare alternative solutions to meet project/s brief for superstructure and foundation.                                                      |               |           |                  |

|          | Output Standard                                                                                                                            | Partially met | Fully met | Paragraph number |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------------|
| C4       | Prepare and complete solutions to meet project brief for superstructure and foundations.                                                   |               |           |                  |
| C5       | Prepare sufficient drawings and schedules for superstructure and foundations.                                                              |               |           |                  |
| <b>D</b> | <b>Economic, social environmental context</b>                                                                                              |               |           |                  |
| D1       | Discuss commercial issues in respect of aspects of a project.                                                                              |               |           |                  |
| D2       | Identify and discuss economic issues in respect of aspects of a project.                                                                   |               |           |                  |
| D3       | Discuss environmental issues in respect of a project.                                                                                      |               |           |                  |
| D4       | Discuss sustainability in respect of a project                                                                                             |               |           |                  |
| D5       | Identify and discuss health and safety issues related to the structural superstructure.                                                    |               |           |                  |
| D6       | Identify and discuss health and safety issues related to the substructure.                                                                 |               |           |                  |
| D7       | Write a risk assessment for a project                                                                                                      |               |           |                  |
| D8       | Awareness of relevant legal requirements governing engineering activities.                                                                 |               |           |                  |
| D9       | Knowledge of management techniques that may be used to achieve engineering objectives                                                      |               |           |                  |
| <b>E</b> | <b>Engineering Practice</b>                                                                                                                |               |           |                  |
| E1       | Show an understanding of codes of practice for two major structural materials.                                                             |               |           |                  |
| E2       | Demonstrate the use and application of codes of practice and industry in a project/s..                                                     |               |           |                  |
| E3       | Show a clear use of appropriate bibliography and the internet in considering alternatives and broadening engineering knowledge.            |               |           |                  |
| E4       | State how personal development will be achieved in technical and industrial experience.                                                    |               |           |                  |
| <b>F</b> | <b>Additional General Skills</b>                                                                                                           |               |           |                  |
| F1       | Exercise personal responsibility, which may be as a team member.                                                                           |               |           |                  |
| F2       | Plan and carry out a personal programme of work.                                                                                           |               |           |                  |
| F3       | Plan self-learning and improve performance, as the foundation for lifelong learning/CPD.                                                   |               |           |                  |
| F4       | Apply skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities. |               |           |                  |