



QUESTION WORKBOOK

# Float, Gantt charts and scheduling

Decision Mathematics 1 · Year FM

6 questions · 22 marks

NAVY SCREEN EDITION

**SECTION A** · Warm-up

**A1** An activity has earliest start 6, latest finish 13 and duration 4. Find its total float.

[2]

**A2** For the seven-activity project, the critical activities are A, C, E and G, and the latest starts of B, D and F are 2, 8 and 10 with earliest starts 0, 3 and 5. State every total float.

[3]

**SECTION B** · Standard

**B1** Explain why D and F, each with 5 days of float, cannot both be delayed by 5 days.

[3]

- B2** The activities take 3, 5, 4, 2, 6, 3 and 2 days, one worker each, and the project lasts 15 days. Find the lower bound on the number of workers, and state the peak demand if every activity starts as early as possible. [4]

- B3** Show how the peak can be brought down to two workers. [4]

## SECTION C · Stretch

- C1** A project lasting 10 days consists of A (10 days) and B, C and D (6 days each), with no activity depending on any other and each needing one worker throughout. Find the lower bound on the number of workers, and show that the bound cannot be achieved. [6]