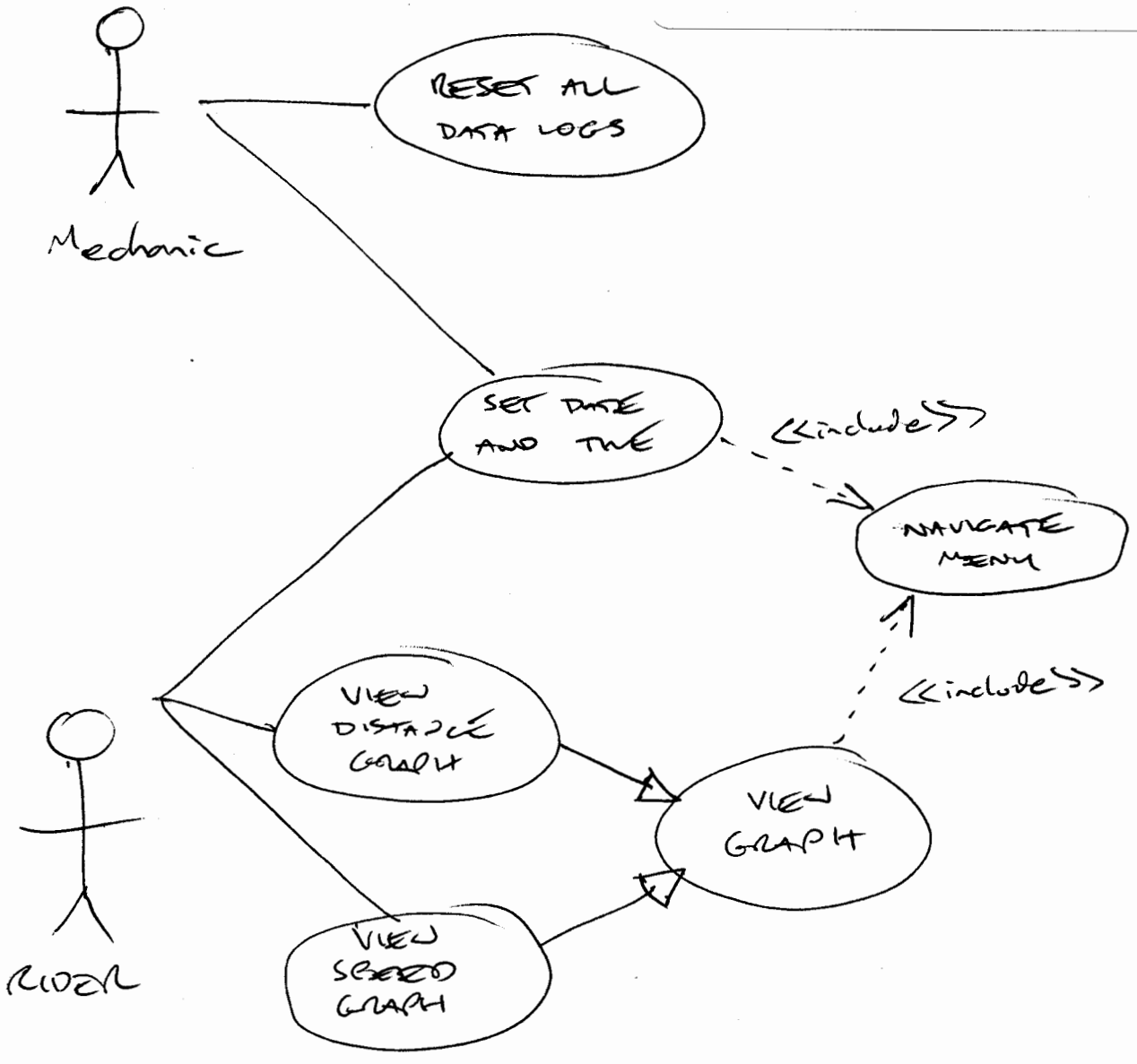
SOFTWARE ENGINEERING II

Computer Science Tripos Part IA 2005

Paper 2 Question 8

AFB — Software Engineering II

a) (i) SYLLABUS: UML DIAGRAMS



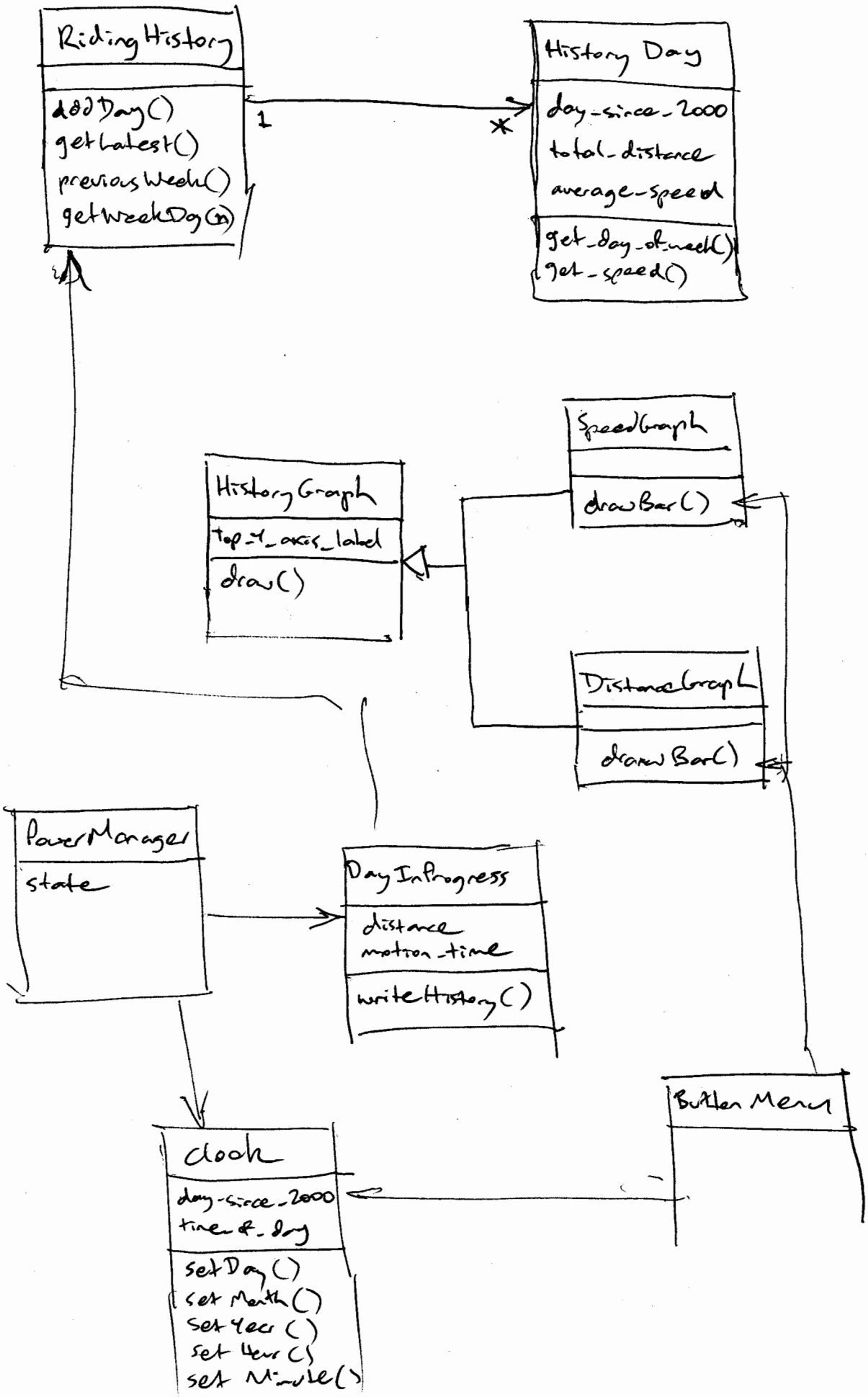
MARKING

- 1 MARK FOR CORRECT DIAGRAM STYLE
- 1 MARK FOR APPROPRIATE USE
- 1 MARK FOR SIMILARLY CONCRETE DESIGN

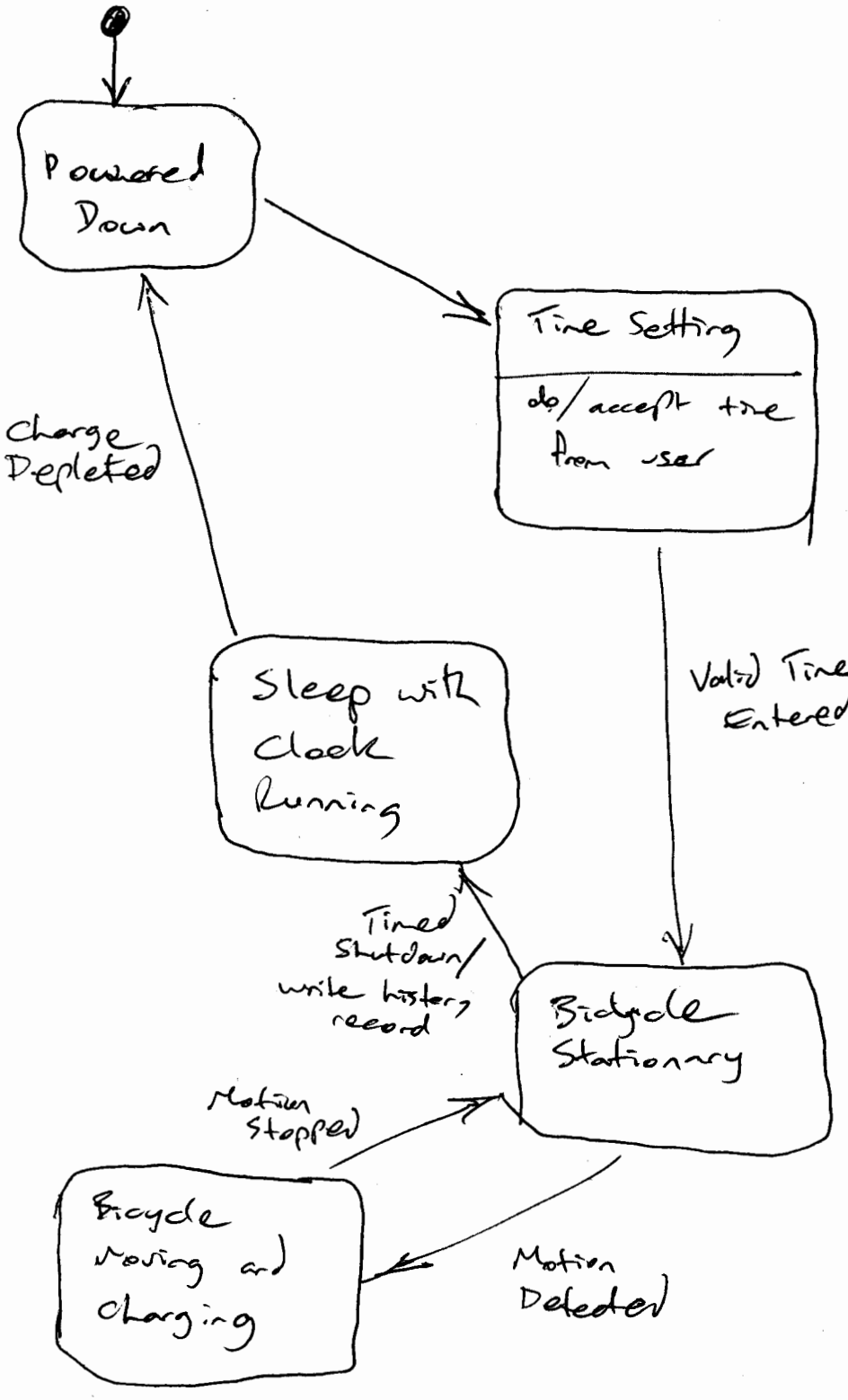
(NEED NOT BE A FULL DESIGN, JUST ADDRESS POINTS RAISED IN QUESTION)

a) (ii)

(MARKING AS FOR a(i))

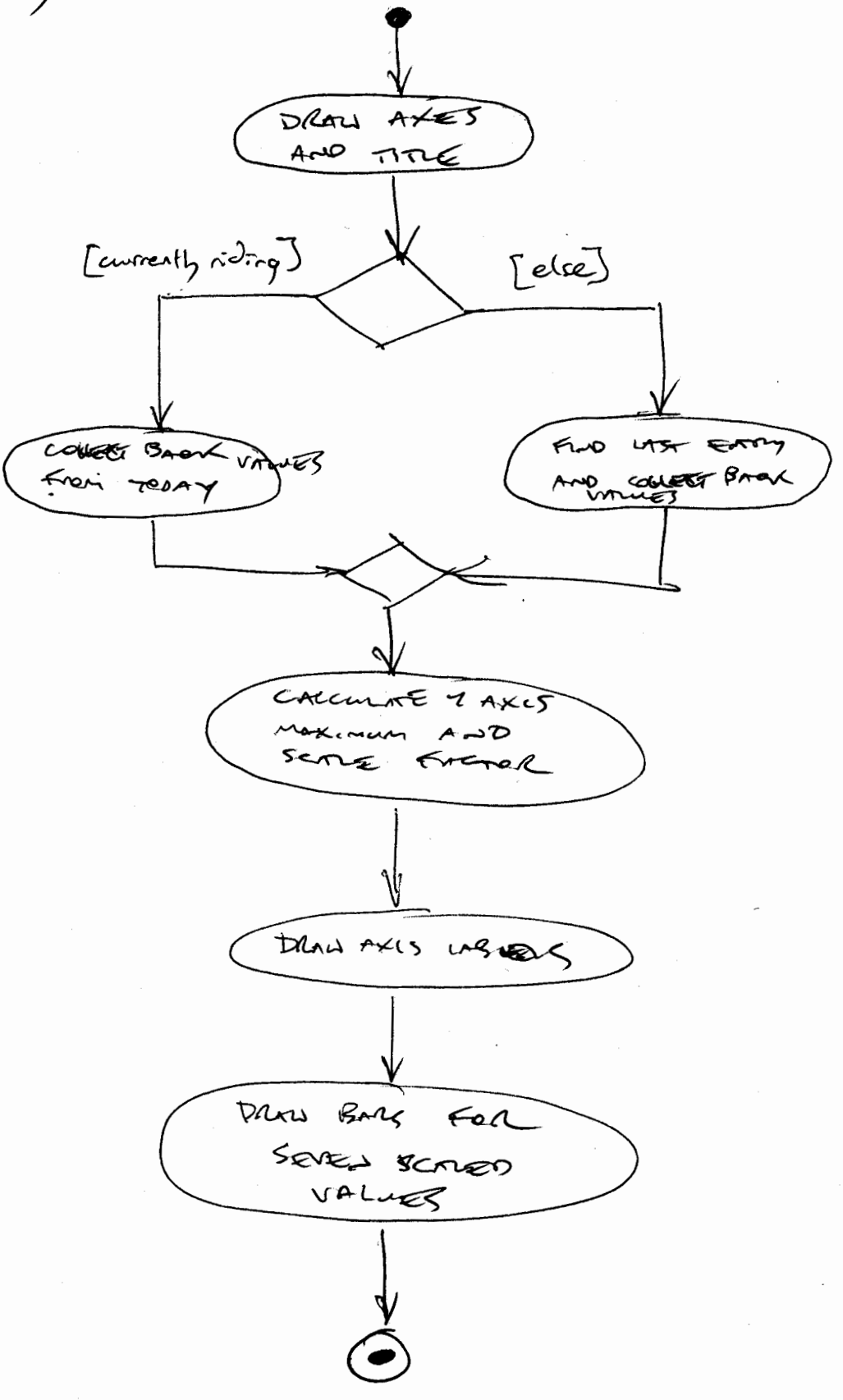


a) (iii)



(MARKING AS FOR a) (i))

a) (iv)



(MARKING AS FOR a(i))

b) SYLLABUS : VARIABLE NAMING AND ROLES

top_Y_axis_label - the role is a "fixed value," calculated only once

Y_scale_factor - the role is a "transformation," ~~bare~~ derived from top label

max_Y_value - the role this plays is a "most-wanted" holder

plotted_bar_index - the role is a "stepper"

MARKING

- 1 MARK EACH (½ FOR NAME ONLY)

SYLLABUS : TESTING AND DESIGN PROCESS

c) Use cases (i) can be verified with respect to user requirements by reviewing with users, marketing personnel, or by trials with user interface mockups.

class diagram (ii) can be verified with respect to use cases by walking through each scenario, noting responsibilities and collaborations

state diagram (iii) can be tested against real-time behaviour by simulating power cycle combinations on actual hardware

activity diagram (iv) could be tested by writing stub routines that render the display on a development system, using simulated historical data

MARKING

- 1 MARK EACH. SEVERAL ALTERNATIVE TECHNIQUES MIGHT BE PROPOSED, AND ANYTHING APPROPRIATE GETS THE MARK