Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

(i) C and D **or** D and C

accept CD
accept DC
accept answers in terms of time

1

(ii) any **one** from:

streamline position streamline clothes

accept crouched position
accept tight clothes
accept design of cycle
accept cycle slower

1

(iii) 0.5 hours **or** 30 minutes **or** 1800 seconds

***must** have unit*

1

(iv) speed = $\frac{\text{distance}}{\text{time (taken)}}$

accept any correct rearrangement
*accept s = d/t **or** v s/t*
accept velocity for speed
accept 

if subsequent use of  *correct*

1

(v) 16

allow for mark for each of time = 3.5 hours
distance = 56km
allow e.c.f. from *part (a)(iii) if correctly used*
*an answer of 14 gains **2** marks*
*allow **1** mark for correct attempt to average the three sections*

3

[7]

Q2.

(a) up

for 1 mark

1

(b) (i) increased

for 1 mark

1

(ii) more water displaced; ship heavier

either for 1 mark

1

[3]

Q3.

(a) 3

gains 1 mark

m/s^2

gains 1 mark

else working *gains 1 mark*

2

(b) 2850 ecf

gains 1 mark

N

gains 1 mark

else working

gains 1 mark

2

(c) friction/air resistance increases with speed;
till frictional = max forward force;
then force/acceleration is zero

for 1 mark each

alternative limitation for safety

gains 1 mark only

3

[7]