b) iii) Place eye level at the top of the coil

iv) $F = 0.7\ N$

c)

F (N)	I (A)
1.3	3.03
0.8	0.79
1.0	1.85
1.1	2.12
1.6	4.29
1.5	4.05

e) iii) gradient $= \dfrac{1.3 - 1.0}{3.03 - 1.85}$

$= 0.15\ NA^{-1}$

y-intercept $= 0.54\ N$

f) $F = kI + W$

$y = mx + c$

k = gradient $= 0.15\ NA^{-1}$

W = y-intercept $= 0.54\ N$

g) Deducting the weight of the magnet, the straight line will pass through origin and therefore the force of attraction is directly proportional to current.

h) I) $y = mx + c$

$F = 0.15x + 0.54$

$10 = 0.15x + 0.54$

$9.46 = 0.15x$

$x = 63.07\,A$

II) Overheating will happen when 63.1 A is supply.