



Oxford Cambridge and RSA Examinations
General Certificate of Secondary Education

PHYSICS
PAPER 3
FOUNDATION TIER

1982/3

MARK SCHEME

Specimen Paper 2003

Qn	Expected answer	Marks	Additional guidance
4 (a) (i)	45 minutes or $\frac{3}{4}$ hour (1)	1	
(ii)	12 °C (1)	1	
(b)	idea of different (specific) heat capacity/different amount of energy needed for same temp rise (1) less (1)	2	
(c)	10 x 4000 x 20 = 800 000 (1) J (1)	1 1 (6)	
5 (a)	trapped air (1) poor conductor/convector (1)	2	
(b)	reflects (1) radiation (1) QWC = 1. This mark should only be awarded if the answer attempts to address the question and the quality of the description makes the meaning clear	2 1 (5)	
6 (a) (i)	resonance	1	
(ii)	(frequency of) note matches natural frequency (of glass)	1	
(b)	interference	1 (3)	
7 (a)	ray hits screen below red ray (1) refracting appropriately at both boundaries of prism (1)	2	
(b) (i)	speed decreases (1) frequency stays the same (1) wavelength decreases (1)	3	
(ii)	L straight on (1) M through principal focus (1)	2 (7)	

Qn	Expected answer	Marks	Additional guidance
8 (a)	high resistance in dark and low resistance in light (1) high resistance gives low voltage/ 0V and vice-versa (1)	2	
(b)	Q falls and rises sharply as A passes 2.0 V (1) Q = 4.5 V when A less than 2.0 V (1) Q = 0.5 V when A greater than 2.0 V (1)	3	by eye for all Q reversed = 1
(c) (i)	LOW (1) HIGH HIGH (1)	2	ACCEPT on/1/high, off/0/low
(ii)	OR gate	1	ecf truth table if wrong
		(8)	
9 (a)	the Sun	1	
(b) (i)	heat/thermal	1	
(ii)	(90/100) x 100 (1) correct value 90 (%) (1)	2	accept 0.9
		(4)	
Total = 50			