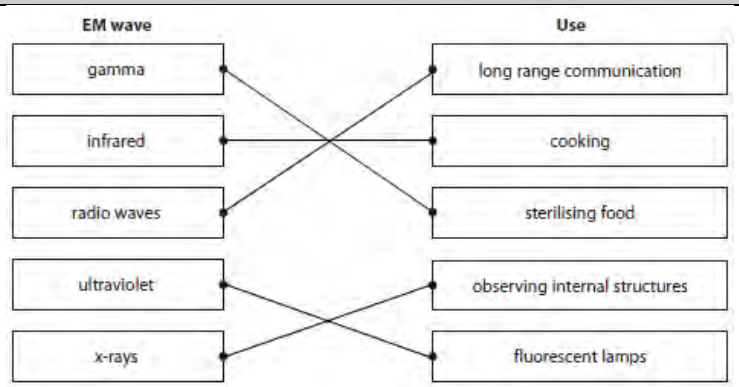
Mark Scheme (Results)

January 2020

Pearson Edexcel International GCSE
in Physics (4PH1)
Paper 2PR

Question number	Answer	Notes	Marks
1 (a)	 all four correct;;;	gamma use is given so only judge other four EM waves for marks three or two correct scores 2 marks one correct scores 1 mark	3
(b)	C (internal heating of tissue); A is incorrect because this is a hazard of visible and ultraviolet radiation B is incorrect because this is a hazard of x-ray and gamma radiation D is incorrect because this is a hazard if infrared radiation		1
(c)	radio (waves);		1

Total for Question 1 = 5 marks

Question number	Answer	Notes	Marks
4 (a) (i)	substitution; evaluation; e.g. (GPE =) 1.8 × 10 × 0.95 (GPE =) 17 (J)	allow g = 9.8, 9.81 allow 16.8, 16.7…, 17.1… (J)	2
(a) (ii)	idea that KE (gained) is greater than GPE (lost); idea KE gained = GPE lost + work done; e.g. 17 + 4 = 21 OR 21 – 17 = 4		2
(b) (i)	use of KE = ½ × mass × speed^2; substitution; rearrangement; evaluation; e.g. KE = ½ × m × v^2 21 = 0.5 × 1.8 × v^2 v = √(21/0.9) (v =) 4.8 (m/s)	allow standard symbols can be implied from working allow 4.83, 4.83… (m/s)	4
(ii)	substitution into F = mv-mu / t; evaluation; e.g. F = (1.8 × 4.8) / 0.12 (F =) 72 (N)	allow ecf from (b)(i) allow alternative method using a = (v-u)/t and F = ma allow 72.5, 72.45… (N)	2

Total for Question 4 = 10 marks