Mark Scheme (Results)

Summer 2019

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

Question number	Answer	Notes	Marks
1 (a)	B – gravitational; A is incorrect because there are no charges C is incorrect because there are no magnetic fields D is incorrect because nuclear forces are short range		1
(b)	D – universe; A is incorrect because the universe contains billions of galaxies B is incorrect because each solar system contains several planets C is incorrect because galaxies contain billions of stars		1
(c)	A – absolute magnitude; B is incorrect because colour determines the surface temperature of a star C is incorrect because diameter determines the power of a star D is incorrect because temperature determines the power of a star		1

(b)	Any THREE from MP1 Dog and water are at different temperatures; MP2 Dog and water in physical contact so likely to be conduction; MP3 No movement of particles from dog to water, so not convection / EQ; MP4 Dog and bag are both solids, so convection impossible; MP5 Not much radiation as dog and water similar temperatures;	Allow “no gap between dog and bag so no convection”	3

Question number	Answer	Notes	Marks
9 (a) (i)	Selection of P=F/A; Conversion of g to kg; Evaluation of weight; Evaluation of pressure; Correct answer: 140 (Pa) i.e. $W = 3.7 \times 10^{-3} \times 10 = 3.7 \times 10^{-2}$ N; $P = 3.7 \times 10^{-2} / (2.6 \times 10^{-4})$; P = 140 (Pa);	 0.0037 seen anywhere Accept any value that rounds to 140. i.e 142, 142.3, Accept use of 9.8(1) for 'g', giving 139(.46)	4
(ii)	Same weight (and larger cross-sectional area); P=F/A so smaller pressure;	Allow 'force' for weight	2
(b)	Increases continuously from -10 °C to 0 °C; Remains constant at 0 °C; Increases continuously from 0 °C to 20 °C;	Responses with no period of time at 0 °C score max 1 mark. Accept • Any gradient • Straight lines or curves for the increasing temperature parts • Any non-zero amount of time at 0 °C by eye Ignore any numbers on the time axis.	3
(c)	Any TWO from: Bonds between particles are weakened or broken; Particles go from regular to irregularly packed/EQ; Particles go from vibrating (about a fixed position) to sliding past each other/EQ;	 Allow particles get (slightly) further apart/EQ; ignore references to KE	2