



Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICS	0625/32
Paper 3 Core Theory	October/November 2018
MARK SCHEME	
Maximum Mark: 80	

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This document consists of **11** printed pages.



Question	Answer	Marks
1(a)	middle row: YZ	B1
	bottom row: XY	B1
1(b)	area under graph	C1
	$0.5 \times 20 \times 40$ OR $\frac{1}{2}$ base $\times$ height	C1
	400 (m)	A1
1(c)	(WX or acceleration has) steeper line / gradient	B1

Question	Answer	Marks
2(a)	mass in kg AND height in m	B1
	area in m ²	B1
2(b)(i)	$W = m \times g$	C1
	4000×10	C1
	40 000 (N)	A1
2(b)(ii)	$P = F \div A$ in any recognisable form	C1
	(area =) $0.125 \times 4 = 0.50$ (m ²)	B1
	$b(i) \div 5000$ OR $40\,000 \div 0.500$	C1
	80 000 N / m ² OR 80 000 Pa	A1

Question	Answer	Marks
3(a)	manometer	B1
3(b)	760–280	C1
	480 (mm Hg)	A1
3(c)	(level A) up (level B) down	B1

Question	Answer	Marks
4(a)	chemical gravitational potential energy OR kinetic	B2
4(b)	hovering OR stationary OR moving slowly owtte	B1
	at max height	B1
4(c)	thermal dissipated to the air / surroundings	B2

Question	Answer	Marks
5(a)	(thermal) energy required to raise temp by 1 °C	B1
5(b)	melting evaporation or boiling freezing condensation or condensing	B4
5(c)	increased pressure	B1
	more collisions or hit walls of container harder or more often	B1
	molecules move faster OR have more (kinetic) energy	B1

Question	Answer	Marks
6(a)(i)	refracted at first boundary correctly	B1
	refracted at second boundary correctly	B1
6(a)(ii)	refraction	B1
6(b)(i)	converging / bent inwards / meet at a point e.g. focus	B1
6(b)(ii)	two straight rays drawn converging	B1

Question	Answer	Marks
7(a)	orange yellow green blue indigo	B2
7(b)(i)	detecting an intruder to infra-red	B1
	communicating by satellite to microwaves	B1
	detecting broken bones to X-rays	B1
7(b)(ii)	<u>frequency</u>	B1

Question	Answer	Marks
8(a)	circle around 20 Hz–20 000 Hz	B1
8(b)	frequencies (of sound)	B1
	above 20 000 Hz	B1
8(c)	Quieter sound AND has lower pitch	B1
	(as) smaller amplitude	B1
	(as) frequency is lower	B1

Question	Answer	Marks
9(a)	magnetic field (of magnet)	B1
	changes / cuts coil / linked to coil	B1
	induces / causes / produces / generates an emf / voltage / current OR electromagnetic induction	B1
9(b)	stronger magnet more turns on coil(s) turn magnet at higher speed	B3
9(c)(i)	<u>alternating (current)</u>	B1
9(c)(ii)	a.c. changes direction OR d.c one direction only	B1

Question	Answer	Marks
10(a)	variable resistor or rheostat	B1
10(b)	0.8 (A)	B1
10(c)	$V = IR$ OR $(R =) V \div I$	C1
	$4.5 \div 0.8$	C1
	5.6(25)	A1
10(d)	(current) increases OR larger	B1
	(as new/thicker wire has) less resistance	B1

Question	Answer	Marks
11(a)	two roughly circular lines drawn	B1
	arrow showing clockwise direction	B1
11(b)	any 5 from: current in circuit / coil(s) coil becomes electromagnet (coil / electromagnet) attracts (soft iron) armature (so) hammer hits gong circuit is broken (at A / contact screw) electromagnet loses magnetic field / stops working armature springs back cycle repeats	B5

Question	Answer	Marks
12(a)	line from 'nucleus' to 'is the centre of an atom'	B1
	line from 'electrons' to 'orbit around centre of an atom'	B1
	line from 'neutrons' to 'has no electric charge'	B1
12(b)(i)	any 2 from: different forms of same element same number of protons different number of neutrons / nucleons	B2
12(b)(ii)	value from graph selected e.g. 16 000	C1
	half the original value selected or stated e.g. 8000	C1
	12.3 or 12.4 (years)	A1