



Cambridge IGCSE™

PHYSICS**0625/32**

Paper 3 Core Theory

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MARK SCHEME

Maximum Mark: 80

Published

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This document consists of **15** printed pages.

Question	Answer	Marks
1(a)(i)	$20.0 - (2.5 + 16.0)$	C1
	1.5 (N)	A1
	(vertically) down	B1
1(a)(ii)	(upwards force) increases	B1
	increases air resistance	B1
1(b)(i)	6.5 (s)	B1
(b)(ii)	(resultant force is) zero	B1
	(because the) speed (of parachute) is constant / steady / uniform	B1
1(b)(iii)	(dist. travelled =) area under line (of speed-time graph)	C1
	45×10	C1
	450 (m)	A1

Question	Answer	Marks
2(a)	(Moment) = $F \times d$	C1
	200×50	C1
	10 000 (Ncm)	A1
2(b)	use a longer spanner / move force to end of spanner owtte	B1
	(to) increase the distance (from force to wheel nut or pivot) OR distance (from force to wheel nut or pivot) is greater than 50 cm	B1
2(c)	(work done is the) same (as)	B1
	(power produced is) greater (than)	B1

Question	Answer	Marks
3(a)(i)	755	B1
	mm Hg	B1
3(a)(ii)	vacuum	B1
3(b)	$(P =) F \div A$	C1
	$38 \div 200$	C1
	0.19 (N / cm ²)	A1

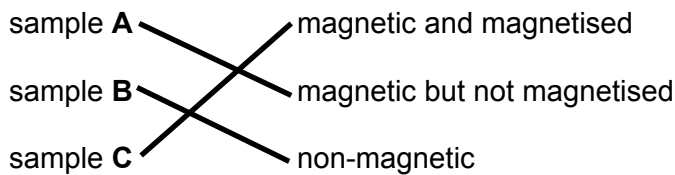
Question	Answer	Marks
4(a)	any three from: high speed random movement random arrangement large spaces / gaps between molecules colliding (with each other / walls of container)	B3
4(b)	(pressure) increases	B1
	AND any two from: (because) molecules move faster collide more frequently (with walls of container) collide with greater force (with walls of container)	B2

Question	Answer	Marks
5(a)	high(er / est) energy molecules	B1
	(near the surface) escape (from surface)	B1
5(b)	(temperature) decreases	B1
	AND any two from: higher energy molecules have escaped (leaving) lower energy particles behind (so) average energy of remaining molecules is lower	B2

Question	Answer	Marks
6(a)	air above candle is heated / warms	B1
	(air becomes) less dense	C1
	<u>less dense</u> air rises (up tube A)	A1
6(b)	means of heating one end of rods	B1
	means of identifying movement of thermal energy along rod	B1
	method of comparing materials	B1

Question	Answer	Marks
7(a)	movement (of coils / spring) parallel	B1
	to the direction wave / it / disturbance travels	B1
7(b)	5.2 (cm)	B1
7(c)	number of waves (passing a point OR sent out)	B1
	(in) one second / unit time.	B1
7(d)	speed = distance ÷ time	C1
	25 ÷ 0.2(0)	C1
	125 (cm / s)	A1

Question	Answer	Marks
8(a)	8.5 to 9.1 squares counted	C1
	4.5 (cm)	A1
8(b)(i)	focal length marked from centre of lens	B1
	to point where ray parallel to axis is refracted by lens to cross axis	B1
8(b)(ii)	inverted (third word circled)	B1
	diminished (5 th / last word circled)	B1

Question	Answer	Marks
9(a)	 sample A magnetic and magnetised sample B magnetic but not magnetised sample C non-magnetic	B2
9(b)	use (same pole) of (permanent) magnet stroke bar (repeatedly) in same / one direction owtte OR place (bar / steel) in coil / solenoid current in coil OR connect coil to battery / power supply	B2
9(c)	rods repel OR move apart / away	B1
	like / same (type of) charges on both rods	B1

Question	Answer	Marks
10(a)(i)	(large current produces large) heating effect OR overheating OR (could) cause fire.	B1
10(a)(ii)	fuse melts	B1
	breaks circuit OR stops current in circuit	B1
10(a)(iii)	(metal case / kettle) would still be live OR connected to 240 V / mains (when fuse has melted)	B1
10(b)	5 A	B1
10(c)	$(R =) V \div I$ OR $V = IR$	C1
	$12 \div 2.5$	C1
	4.8 (Ω)	A1

Question	Answer	Marks
11(a)	$V_p \div V_s = N_p \div N_s$	C1
	$230 \div V_s = 300 \div 30$	C1
	23 (V)	A1
11(b)	(soft) iron	B1
11(c)	Any two from: less energy or power wasted OR less heating(of wires) OR more efficient lower current (in transmission wires) can use thinner (transmission) wires / cables fewer power stations needed (so) lower cost for cable and supporting pylons transmit (energy over) longer distances (without drop in power)	B2

Question	Answer	Marks
12(a)	rocks, buildings, (natural) radon, air, cosmic rays, sun, food, drink	B1
12(b)(i)	evidence of using graph	C1
	TWO pairs of coordinates seen	C1
	7.5 (min)	A1
12(b)(ii)	Use a lead(-lined) box / container	B1