Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **March 2017**

MARK SCHEME

Maximum Mark: 60

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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Question	Answer	Marks
1(a)	TICK/CROSS. 2 how long to do the traffic count and at what time to do it 4 the different categories of vehicles to include in the count 5 the position on each road to do the vehicle counts (1 + 1 + 1) = 3	**3**
1(b)(i)	Tally 1	**1**
1(b)(ii)	Students lose concentration / become bored / tired (1) Specific weather problem – rainfall / sunstroke / too hot / dehydration (1) Breathing difficulties / exhaust or vehicle fumes/ sickness / uncomfortable due to pollution (1) (1 + 1) = 2	**2**
1(c)(i)	Mayo Road 1	**1**
1(c)(ii)	Plotting Mayo Road going into town centre as follows: 08.00–09.00 = 356 12.00–13.00 = 123 17.00–18.00 = 237 Credit 1 mark for 3 correct plots; 1 mark for correct symbol – solid line – from key. (1 + 1) = 2	**2**
1(c)(iii)	Hypothesis is TRUE – 1 mark reserve. All roads are busier at 08.00 or morning/ 17.00 or evening <u>than</u> 12.00/midday (1) Roads going <u>into the centre</u> are busier at 08.00/morning (1) Roads going <u>out of the centre</u> are busier at 17.00/evening (1) Credit data (<u>1 max and Reserve</u>) to show change on <u>one named road</u> during the day OR total of all roads (1 max data) e.g. Lohar 283 morning, 102 midday, 157 evening. OR Total: 1947 morning, 863 midday, 1976 evening. <u>If hypothesis decision is wrong X HA = 0 and no further marks</u> (1HA + 1 + 1 + 1R) = 4	**4**
1(d)(i)	Divided bar graph completion. TICKS/CROSSES 2 marks for dividing lines at 815 and 1080/1081 from left. 1 mark for shading in correct order and pattern according to the key. (1 + 1 + 1) = 3	**3**
1(d)(ii)	'There are **more** vehicles in all four categories on Mayo Road than on Lohar Road.' 1	**1**

Question	Answer	Marks
1(d)(iii)	Must compare not just list stats. More bikes and cars on Victoria Rd/less bikes and cars on Lohar Rd (1) More vans and lorries on Lohar Rd/less vans and lorries on Victoria Rd (1) Credit 1 mark where compare any two categories between roads e.g. more bikes on Victoria Road but more vans on Lohar Rd (1). (1 + 1) = 2	**2**
1(e)(i)	Lorries = 108. 1	**1**
1(e)(ii)	Plotting 300 at 08.00 and 119 at 12.00.. (1 + 1) = 2	**2**
1(e)(iii)	'*Traffic congestion occurs twice in the day on the four roads*.' Evidence: Either: Congestion above index/level/375 at 08.00/morning on roads going into town centre (1) Or: Congestion above index/level/375 at 17.00/evening on roads going out of town centre (1) Accept one named road instead of "roads" ; must meet above criteria Credit use of data to 1 max. and Reserve.g. Lohar Road 389 morning and 391 evening. Can use different roads for these two numbers. . (1HA + 1 + 1R) = 3	**3**
1(f)	Do traffic counts more frequently / more than three times during the day (1) Survey more roads going into town centre (1) Do the count on more than 1 day and compare the results/calculate average (1) *NB Only credit ref to calculating an average once*. Do the count on a non-work day / weekend (1) More students / groups do the count to minimise tallying errors/ check results (1) Use clickers (1) (1 + 1) = 2	**2**

Question	Answer	Marks
1(g)	Widen roads / more lanes on roads / larger roads (1) By pass / ring road /underpass / flyover / roundabout / traffic lights /robots/one-way road (1) Park and ride (1) Bus lanes / bike lanes/ lorry lanes (1) Car sharing/pooling (1) Improve/more public transport or example e.g. underground, skytrain / cheaper public transport (1) Parking restrictions along the roads (1) Restrict traffic to certain days / license plate policy (1) Congestion charge/toll (1) Flexible working hours etc. (1) Build shopping centres/workplaces away from town centre (1) (1 + 1 + 1) = 3	**3**
	Total:	**30**

Question	Answer	Marks
2(a)(i)	Barometer 1	**1**
2(a)(ii)	Millibars. 1	**1**
2(a)(iii)	Read the temperatures every 24 hours / daily (1) Read the minimum **and** maximum temperatures (1) Read off the bottom of the indices (1) Read at eye level (1) (Use magnet) Reset indices (1) (1 + 1 + 1) = 3	**3**
2(a)(iv)	Not to credit weaknesses of traditional max-min; only strengths of digital. Easy to read / convenient to read / use (1) Instant measurement / quick / saves time (1) Accurate / gives decimal point reading / exact / precise / sensitive (1) Portable / easy to carry / compact (1) Robust / strong/ won't break (1) Easy to reset (1) (1 + 1) = 2	**2**
2(b)(i)	10°C. 1	**1**
2(b)(ii)	22nd (April). 1	**2**
2(b)(iii)	Singapore: AP hardly changes / is constant (1) Albany: fluctuates / goes up and down (1) (1 + 1) = 2	**2**
2(b)(iv)	NO / hypothesis is NOT supported – 1 mark reserve. TICK/CROSS HA. 1 mark max for Singapore: Examples highest AP / 1011 and lowest AP / 1009 = same temperature 35° (1) same AP of 1011 = different temperatures of 29° and 31° (1) 1 mark max for Albany: Examples highest AP / 1028 = temperature of 17° but lowest AP / 993 = temperature of 18° (1) same AP of 1025 = different max temperatures of 20° and 10° (1) Must be clear referring to Singapore and Albany; can use Figs e.g. 7A/7B. If hypothesis decision is wrong X HA = 0 and no further marks. (1HA + 1R Singapore + 1R Albany) = 3	**3**
2(c)(i)	Clear of buildings/ shelter / on open ground (1) Clear of trees / away from interception (1) Clear of people / animals / away from interference (1) On grass / not on concrete (1) On flat land (1) Accessible (1) (1 + 1 + 1) = 3	**3**

Question	Answer	Marks
2(c)(ii)	28(mm). 1	**1**
2(c)(iii)	Evidence Constant AP but rainfall varies / fluctuates (1) Second mark for data which compares AP and rainfall on at least two days e.g. rainfall 19mm (on 10th) and 1mm (on 16th) but AP same at 1010 mb (1) (1 + 1) = 2	**2**
2(c)(iv)	Hypothesis 2 is CORRECT – 1 mark reserve. As AP rises / higher AP = less rainfall OR as AP falls / lower AP = more rainfall OR highest AP = no rain (1) OR inverse/negative relationship seen (1) No credit for recognising anomaly at 20th – just 1 day in 14. Credit 2 DATA Reserve marks for supporting data: Stats of high AP = low rainfall e.g. (on 16th) high AP of 1028mb but no rainfall (1) Stats of low AP = high rainfall e.g. (on 20th) low AP of 997mb but highest rainfall 28mm. (1) (1HA + 1 + 2D) = 4	**4**
2(d)(i)	Plotting 12 km/hour from SSE on wind rose. 1 mark for correct choice of SSE and 1 mark for correct plot along it at 12. (1 + 1) = 2	**2**
2(d)(ii)	1 mark Reserve for each instrument Anemometer/Wind speed: Cups / discs / balls revolve / spin (1) Counts number of revolutions per minute /rpm (1) Shows/records reading as kms or miles per hour (1) NOT: Anemometer revolves, cups move. Wind vane/Wind direction: Arrow points to the direction the wind is coming from / in photo (D) wind is blowing from the east (1) *Must refer to photo for 2nd alternative.* Larger surface area catches the wind/ arrow is moved by the wind (1) N, E, S, W points allow direction to be worked out (1) (1R + 3 or 2 + 2) = 4	**4**
	Total:	**30**