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**GEOGRAPHY**

**2217/23**

Paper 2 Investigation and Skills

**October/November 2017**

MARK SCHEME

Maximum Mark: 90

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**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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**Section A**

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
1(a)	Bay – east coast Flat rock – east coast Headland – east coast River mouth – both Spit – neither	<b>5</b>
1(b)(i)	3	<b>1</b>
1(b)(ii)	185°–189°	<b>1</b>
1(b)(iii)	396879 / 397879	<b>1</b>
1(c)	High / hill / mountain Ridge Double peak Heights to 469 m Heights down to 180 m–200 m (within range) Spur Valley Steep slopes Rounded tops Convex / concave slope located Rivers drain north / east / south Radial drainage Tributaries [Reserve 1 for drainage]	<b>6</b>
1(d)	Dam / reservoir Building / isolated settlement <u>M</u> ain road / <u>A</u> road Other road / drive / track / byway Footpath / walking trail Coniferous wood / forestry / plantation Parking area Picnic site Cairn Footbridge Weir	<b>6</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
2(a)(i)	Moving from one country to another country	<b>1</b>
2(a)(ii)	Any relevant push factor	<b>1</b>
2(b)(i)	Correct completion of graph	<b>1</b>

Question	Answer	Marks
2(b)(ii)	UAE Saudi Arabia USA UK Germany Russia	1
2(c)	8 million Largest Larger 14%	4

Question	Answer	Marks
3(a)(i)	26 °C	1
3(a)(ii)	32 13 19 (Allow ECF)	3
3(b)(i)	Push the button / use a magnet Bring the index down / to current temperature	2
3(b)(ii)	So data can be compared / consistent So each set of data is for 24 hours So temperature passes through a maximum and a minimum in each period	1
3(c)	Records shade temperature Thermometer is protected Standard height / conditions / able to make comparisons / consistent	1

Question	Answer	Marks
4(a)(i)	Constructive	1
4(a)(ii)	Convergent	1
4(b)	Subduction	1
4(c)	Movement in different directions / at different speeds Sections of crust lock and release	1
4(d)	Plates converging Oceanic / denser / thinner plate subducts Increasing temperature and friction Descending plate melts Material is less dense Magma rises Vent at surface Repeated activity builds volcano	4

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
5(a)(i)	Pastoral	<b>1</b>
5(a)(ii)	Meat / beef Dairy products / milk Leather / skin / hide	<b>2</b>
5(b)	Covering of grass reduces impact Roots of vegetation hold the soil together Flat / gentle slope encourages infiltration Line of trees blocks wind Hedge blocks wind 1 mark maximum for simple labels without explanation	<b>3</b>
5(c)	Any valid group with reasoned answer E.g. local traders Have more customers	<b>2</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
6(a)(i)	Game / animals / named animal / birds Landscape / scenery / woodlands / lakes / plains	<b>2</b>
6(a)(ii)	Drives Lodges / accommodation Bar / food / drink Guided walks Elephant / horse rides Boating History / culture / art	<b>4</b>
6(b)	Money / income allows for conservation Tourists learn about the animals / conservation Access is controlled	<b>2</b>

## Section B

Question	Answer	Marks
7(a)	A ridge of sand or shingle attached to the land at one end	1
7(b)	Check tide times before setting off / do fieldwork at low tide Avoid slippery rocks / coral Measure waves frequency from safe position, not in sea / do not go too far / deep into sea / face the sea Wear suitable / waterproof clothes / shoes / gloves Check weather conditions / for stormy weather / avoid big waves / avoid strong current Work in pairs / groups / not alone / not out of sight of others Take mobile / cell phone Sunblock / first aid kit 3 @ 1	3
7(c)(i)	Count number of waves breaking / going up beach / hitting object or person Use a stopwatch / clicker / timer Do a number of counts <b>and</b> calculate the average	3
7(c)(ii)	7.4	1
7(d)(i)	Waves approach the coastline at an angle	1
7(d)(ii)	Corks are blown by wind Corks float away from beach / out to sea <b>so</b> difficult to see where they finish / get lost / difficult to measure Only measures rate of longshore drift for the cork Only measures longshore drift on day of fieldwork	1
7(d)(iii)	Take more than one measurement <b>at each side of / at the groyne</b> Take measurements at places <b>along the groyne</b> More students measure <b>and</b> calculate average Another student <b>checks</b> the measurement made / measures again	1
7(d)(iv)	Plot average distance = 14.1 m	1
7(d)(v)	Plot west side of groyne B = 1.45 m and correct shading	1

Question	Answer	Marks
7(d)(vi)	<p>Hypothesis 1 is <b>correct / true</b> – 1 mark reserve</p> <p>Corks / beach material / waves / longshore drift moved from east to west along coast            Beach is higher on east side of groynes / gap between top of groyne and beach is less on east side / height of top of groyne above beach is less on east side / more sand or beach material on east side of groyne (credit opposite answers for west side of groyne)</p> <p>Credit data for 2 marks maximum, e.g.            Wave frequency is less than 10 / average of 7.4 per minute            Corks moved between 13.7 and 14.5 m / average 14.1 m            At groyne A, beach is 1.55 m below top of groyne on west side and 0.35 m below top on east side / 1.2 m lower on west side OR            At groyne B, beach is 1.45 m below top of groyne on west side and 0.25 m below top on east side / 1.2 m lower on west side</p> <p>Credit figures for top of groyne above beach (same figures as above)</p> <p>No credit for hypothesis is false / incorrect / partially correct            If no hypothesis conclusion in response credit evidence</p>	<b>4</b>
7(d)(vii)	<p>To protect the villages / houses / buildings / sand dunes            To protect the beach / stop beach being eroded / keep material on beach            To encourage tourism (by building up the beach)            To slow down / reduce / stop / prevent longshore drift / stop sediment accumulating at one end of beach            To stop the spit growing            To reduce the power of waves</p>	<b>2</b>
7(e)(i)	Complete tally and number counted (8)	<b>1</b>
7(e)(ii)	<p>Footpaths            go along / are along the <b>coast</b> / shore            go through / is in / either side / behind the <b>sand dunes</b>            go behind / next to the <b>beach</b>            go alongside the <b>car park / information board / toilets / café / recycling point</b>            go along / is on the <b>spit</b> / by or around the <b>nature reserve</b></p> <p>Credit 1 mark maximum for 'from ... to ...' answer, e.g. from the café to the spit</p>	<b>2</b>

Question	Answer	Marks
7(e)(iii)	<p>Hypothesis is <b>true</b> – 1 mark reserve</p> <p>(Sustainable because) it attracts tourists / persuades tourists to visit / keeps visitors coming</p> <p>Protects environment / does not destroy the environment / prevents damage to vegetation / (bins) stop tourists from littering / (fence) guards nature reserve</p> <p>Credit example of encouraging features or management for 1 mark Features encouraging tourists to visit: café, campsite, car park, tourist information centre, nature reserve, <b>protected</b> beach, <b>protected</b> dunes Management: board-walk, fence, footpath, information board, litter bin, recycling point, toilets, groynes, nature reserve (no double credit)</p> <p>No credit for saying hypothesis is false If no hypothesis conclusion in response credit evidence</p>	<b>4</b>
7(f)	<p>Put tape measure out along transect line / to create a transect line Measure distance between ranging poles Put poles at equal distance / 5–10 m / put ranging poles at breaks of slope Ensure poles are vertical Rest poles on surface / equal depth into sand Student holds clinometer next to top / at agreed height on ranging pole / at eye level Sight other ranging pole at top / same height Read angle / measure angle / record angle</p>	<b>4</b>

Question	Answer	Marks
8(a)(i)	<p>Systematic sampling Ask every tenth person / go to every tenth house / regular pattern to identify people Avoid bias / fair test / quick method / reliable OR Random sampling Use random numbers to identify people / ask next person they meet Random numbers avoids bias / fair test / quick method / reliable OR Stratified / quota Ask appropriate age / gender balance / get representative sample of population (can be describe or explain) Avoids bias / fair test / reliable</p>	3
8(a)(ii)	<p>10% is enough for a reliable / representative sample / fewer will not be reliable Enough responses to reach a conclusion about the hypotheses Larger sample will take too long / too much time (to complete / to do) Too many responses will be time-consuming to compute / process / total up / plot on graphs / produce too much data to analyse</p>	2
8(b)(i)	Shading 11–20 category in Gujarat	1
8(b)(ii)	Flow lines / <b>located</b> bar graphs	1
8(b)(iii)	<p>Hypothesis is <b>correct</b> / <b>true</b> – 1 mark reserve</p> <p>Most migrants come from Rajasthan OR More from Rajasthan / Madhya Pradesh / Uttar Pradesh / Haryana than another named state, e.g. more from Madhya Pradesh than West Bengal</p> <p>Credit comparative data to 1 mark maximum, e.g. 21–50 from Madhya Pradesh and 0 from Tamil Nadu More than 100 from Rajasthan and 1–10 from Bihar Credit 'only' with statistics as comparison statement, and credit statistics (so 2 marks) No credit if response says hypothesis is false / partly true If no hypothesis conclusion in response credit evidence</p>	3
8(b)(iv)	<p>Less <b>distance</b> / closer to / less time to travel from neighbouring / nearby states <b>Cheaper</b> to travel from neighbouring / nearby states / cannot afford to travel long distance More <b>transport</b> links / easier access from neighbouring / nearby states Migrants have more <b>knowledge</b> / know people / have relatives / speak local language of Jaipur in neighbouring states There will be other large <b>cities</b> to attract migrants in other states</p> <p>Can credit 'opposite' ideas from distant states</p>	2
8(c)(i)	<p>Completion of pie graph – shops = 25%, hand pumps = 11%, wells = 10% 2 marks for dividing lines at 77 and 88, 1 mark for shading</p>	3
8(c)(ii)	13%–15%	1



Question	Answer	Marks
8(c)(iii)	Plot bar 'Throw it on the road' = 13%	1
8(c)(iv)	<p>1 mark for each: water / lighting / rubbish</p> <p>No mains water supply Most / over half / main source of water from public taps Water comes from public sources / do not have their own water / piped water / do not have water in their houses Water must be collected which takes time Water sources spread disease / contaminated water</p> <p>No electric lighting / no electricity Lighting is unreliable 45% / nearly half have no light of their own Main source of light is kerosene lamps</p> <p>No rubbish collection / waste management / rubbish disposal / no hygienic way of waste disposal Rubbish near to settlement Rubbish will attract vermin / spread disease Settlement is unclean / unhygienic Main method of rubbish disposal is to leave it next to shelter</p> <p>Credit 1 mark maximum for data (1% tolerance on stats), e.g. 52% depend on public taps 42–43% depend on kerosene lamps 42% dump rubbish on waste ground</p>	4
8(d)(i)	<p>Divided bar graph completion: construction worker = 24%, making and selling items = 12%, blacksmith = 10%</p> <p>2 marks for plotting dividing lines, 1 mark for correct labelling of sections</p> <p>2 marks maximum if measured from 46% down</p>	3
8(d)(ii)	<p>Jobs will be poorly paid / low wages Informal / unskilled jobs / need no education / qualifications Unreliable wages Hard / manual labour / dirty job</p>	2

Question	Answer	Marks
8(e)	<p><b>Solution A</b>            Will improve housing / services / create living spaces / provide a house / provide a shelter            Create good standard of living / good quality of life / provide basic needs            People can afford decent house / services            Reduce disease / hygienic / clean environment / healthy environment / improve health            Safe – if developed, e.g. from robbery</p> <p><b>Solution B</b>            Will force people out of their accommodation / force them to move away / nowhere to live            Will just transfer the squatter settlement residents elsewhere            May lead to conflict with authorities / violence            People end up where they started / end up back on pavement / not a permanent solution</p> <p>Answer does not need to be comparative            Accept answers for A which are a reversal of B, e.g.            Solution A will not force people to move out of their houses            Credit if the answer says 'it' rather than solution A</p>	<b>4</b>