**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

International General Certificate of Secondary Education

# MARK SCHEME for the October/November 2010 question paper

# for the guidance of teachers

---

## 0460 GEOGRAPHY

**0460/22**        Paper 2, maximum raw mark 60

---

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 must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2010 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

UNIVERSITY *of* CAMBRIDGE
International Examinations

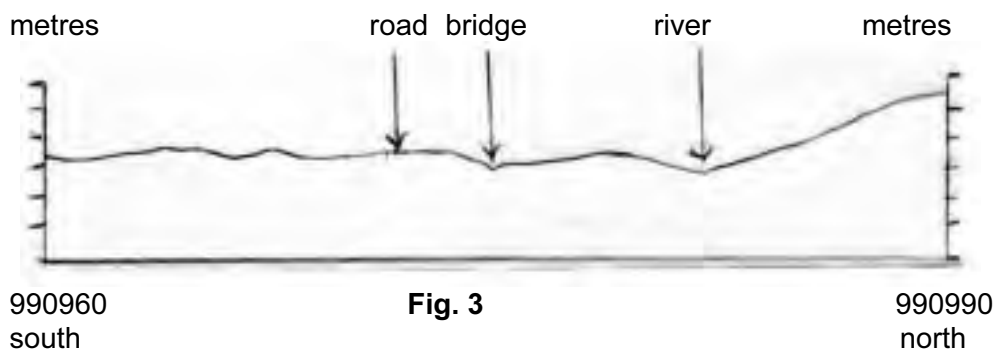| Page 2 | Mark Scheme: Teachers' version | Syllabus | Paper |
|--------|-------------------------------|----------|-------|
| | IGCSE – October/November 2010 | 0460 | 22 |

**1** **(a)** **(i)** tea, [1]

   **(ii)** Perfonde, [1]

  **(iii)** Marketing Board, [1]

  **(iv)** water <u>tank</u>,   water hole = 0 [1]

   **(v)** scrub, [1]

**(b)** Mark first name given. Ignore other detail, even if given first.

| | northern square only (9599) | southern square only (9598) | both of these grid squares | neither of these grid squares |
|---|---|---|---|---|
| motorway | | | ✓ | |
| school | | | | ✓ |
| spur | | | ✓ | |
| land sloping down to the NE | ✓ | | | |
| land over 300 m | | ✓ | | |

More than one tick per row = 0. [5]

**(c)** Use the on-screen ruler to measure as follows. You may need to go to full screen view to see the labels or they may be shown in the view for **(c)(iii)**.



metres       road  bridge     river      metres

990960              **Fig. 3**           990990
south                                 north

   **(i)** river between 86 and 88 mm from southern edge, [1]

  **(ii)** bridge between 58 and 62 mm from southern edge, [1]

| Page 3 | Mark Scheme: Teachers' version | Syllabus | Paper |
|---|---|---|---|
| | IGCSE – October/November 2010 | 0460 | 22 |

(iii) road between 45 and 49 mm from southern edge, [1]

Each should be identified by a label and by a line or an arrow or other clear indication of position. The label could be the name, e.g. "river", or the number, e.g. (i).

Lines ending more than about 5mm from the profile = 0. If the line is within tolerance of 5mm but does not reach the profile, mark the point where it would meet the profile if extended.

If the candidate indicates a range and any part of the range is outside the mark scheme tolerance then = 0.

If labels point to the base line allow max 1.

(d) (i) 9300,
6 figure grid reference = 0 [1]

(ii) 935968, [1]

(e) steep (sides/valley/slopes), (moderately steep, quite steep, steeper and steep gradient of river all = 0)
cliffs, (steep cliff = 1 not 2)
deep/50-100m, (deepening = 0)
narrow,
gorge/canyon/ravine,
winding (valley),
(interlocking) spurs,
gentle gradient (long profile),
steep gradient <u>in south</u> (long profile),
tributary valley/valley confluence/valley splits,
gentle <u>upper slopes</u>,

Points must refer to the valley and not to the river.
If clearly describing the wrong square, max 3 [5]

2 (a) (i) Plots at 255mm for March and 175mm for October (with line nearer the centre than the top or bottom of the square),
Both must be correct.
Shading not needed. [1]

(ii) 2 (°C), (25 – 27 = 0) [1]

(iii) high, [1]

(iv) all year/no dry season/every month, = 1
double maxima,
or
increases twice,
or
decreases twice,
or
high/most in May <u>and</u> December (or ranges of months including May and December),
or
less in February <u>and</u> September (or ranges of months including February and September), = 1 [2]

| Page 4 | Mark Scheme: Teachers' version | Syllabus | Paper |
|--------|-------------------------------|----------|-------|
|        | IGCSE – October/November 2010 | 0460     | 22    |

**(b) (i)** 12,                                                                                         [1]

   **(ii)** 33 (°C),                                                                    [1]

  **(iii)** positive relationship/directly proportional,
as temperature increases so does the cloud,
most cloud when hottest,
tallest cloud when hottest,
least cloud when cooler/coolest,
shortest cloud when cooler/coolest,

(Answers should compare different times of the day. For example, "when temperatures are high there is <u>most</u> cloud" = 1 but "when temperatures are high there is <u>a lot</u> of cloud" = 0)                                                                                         [1]

**3 (a) (i)** scree,
boulders/rocks/rocky,
cliff/steep/vertical/escarpment, (quite steep, fairly steep etc. = 0). "steep" and "cliff" are alternatives, unlike Q1(e).
<u>bare</u> rock/bare ground/lack of vegetation/sparse vegetation/barren, (scattered vegetation = 0)
pillar/'island' of rock/stack/stump/butte,
mountain/inselberg/mesa, (high, hilly = 0)
plateau/flat tops,
flat lower area/terrace,
valley/gorge/ravine/canyon,
dissected,
tributary valley,
joints/cracks,
red/brown/orange rock/soil,
gulleys/dongas (in foreground),                                                                       [4]

  **(ii)** vertical cracks/joints,      )
horizontal cracks/bedding planes,   ) cracks alone = 1
<u>some</u> (layers) weather more easily,
red/brown colour indicates iron minerals and oxidation,                                               [2]

**(b)** Name: exfoliation/onion skin weathering/insolation weathering,
Evidence: thin/curved rock (fragment)/shape of the rock fragment/peeling/slabs/rounded surface,
Or
Name: carbonation,
Evidence: light coloured rock like limestone,
Or
Name: oxidation,
Evidence: red/brown staining,

If more than one type of weathering is given extract what is correct, unless there is a direct contradiction, e.g. exfoliation and freeze-thaw.                                                      [2]

4   (a)   **A** – dispersed/scattered,
           **B** – nucleated/clustered,  Allow nuclear.
           **C** – linear,                                                                                      [3]

     (b)   **(i)**  defense/protection,                                                                         [1]

           **(ii)**  flat/gentle slope,
                    water supply/river for transport/fishing/irrigation,
                    (river alone = 0,  HEP = 0)
                    bridge,
                    road junction/route centre,
                    away from marsh,
                    (dry point = 0)                                                                             [3]

           **(iii)**  cool(er)/less intense insolation,
                     shade from hill (to the south) ,
                     slopes away from the sun,                                                                  [1]

5   (a)   **(i)**  Plot for 570mm shown by an arrow or line or other clear indication (need not be
                  labelled).
                  Tolerance: 561 to 579 and arrow or line ending within about 0.3mm of the vertical line.

           **(ii)**  dams/reservoirs/tanks,
                    store water <u>in wet years</u>,
                    ration water,
                    artificially recharge groundwater,
                    boreholes,
                    desalinisation,
                    transfer water from a wetter area,
                    recycle water,
                    education/encourage careful use/water conservation,                                        [2]

     (b)   **(i)**  Use the on-screen protractor to measure as follows.
                   Larger segment has an angle 35 to 37° = 2,
                   Larger segment has an angle 33 to 34 or 38 to 39° = 1,

                   Do not give if any part of the line is out of tolerance or if the line position is unclear.
                   Shading correct = 1
                   Accept any solid shading for domestic and any line shading for industry.                    [3]

           **(ii)**  agriculture – one third/31 to 36% (user and figure both needed),                           [1]

           **(iii)**  Northern Territory <u>much</u> less/South Australia <u>much</u> more,
                     Northern Territory 31 to 36% and South Australia 76 to 80%,
                     Northern Territory a third/over ¼ and South Australia (just over) ¾,

                     Carry forward any error in the Northern Territory figure from **(b)(ii)**.
                     Accept if difference quantified correctly.
                     NT a little v SA a lot = 0 (not quite correct)                                             [1]

| Page 6 | Mark Scheme: Teachers' version | Syllabus | Paper |
|--------|-------------------------------|----------|-------|
|        | IGCSE – October/November 2010 | 0460     | 22    |

6  (a)  (i)  Muroran has nearby (or need for) coal/iron <u>ore</u>/iron <u>mines</u>,
             Yawata has (or need for) coal,
             Kamaishi near (or need for) iron <u>ore</u>/iron <u>mines</u>,

             If no names used, accept near coal/iron <u>ore</u>/iron <u>mines</u> for one mark. Don't accept just "iron".                                                                                                    [2]

        (ii)  in south/south east,
              coastal = 1,  (Allow "near the sea" but not "at the edges of Japan")
              on the Pacific coast = 2, (if Sea of Japan given as well then only = 1)                        [2]

    (b)  (i)  raw materials/coal/iron ore have to be imported/not mined in Japan (now),
              bulky/heavy raw materials,
              <u>transport</u> costs high,
              coal imported for thermal power,
              large area of land needed, (not just "it is a big factory")
              reclaimed land used,                                                                          [3]

        (ii)  <u>large</u> site needed/<u>11km²</u>/no <u>large</u> sites available,
              <u>flat</u> site needed/country has limited <u>flat</u> land/most is <u>mountainous</u>,
              (land shortage alone = 0, large or flat needed)
              ships can dock next to the works,
              keep pollution away from the population,

              It is cheaper = 0.                                                                            [1]