**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**GCE Ordinary Level**

# MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

# 7101 COMMERCIAL STUDIES

**7101/02** Paper 2 (Arithmetic), maximum raw mark 100

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.

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UNIVERSITY of CAMBRIDGE
International Examinations

**Section A**

| | | | |
|---|---|---|---|
| **1** | **(a)** 121.95 oe | 3 | **B1** 43.95 **B1** 78 |
| | **(b)** **(i)** 0.625 | 2 | **M1** 5 ÷ 8 or 0.625 seen in working |
| | **(ii)** 62.5 | 1 | **A1** √ |
| | **(c)** 15 | 3 | **B2** 15.6(…) or **M1** figs 5 ÷ figs 32 |
| **2** | **(a)** **(i)** 1.39 | 3ft | **M1** 2.35 × 59 or 2.35 × 0.59 **A1** 138.65 or 1.3865 |
| | **(ii)** 56 | 3ft | **M1** 59 × 0.957 or 59 – (59/100) × 4.3 **A1** 56.463 |
| | **(b)** 20.93 | 3 | **M1** 100 – 29.2 or 70.8% **M1** (14.82/"70.8") × 100 |
| **3** | **(a)** 3.5 | 3 | **M1** 294 ÷ 2 **M1** ("147"/4200) × 100 or<br>**M1** 294 = (4200 × R × 2)/100 **M1** 294 × 100/(4200 × 2) |
| | **(b)** **(i)** 414.4(0) | 3 | **M1** 148/125 **M1** "1.184" × 350 or<br>**M1** 125/148 **M1** 350/"0.844…" |
| | **(ii)** 175 | 3 | **M1** 490/350 or 490/"414.4"<br>**M1** "1.4" × 125 or "1.1824…" × 148 |
| **4** | **(a)** **(i)** 4 : 8 : 3 | 2 | **B1** × : 2× : ¾× in any order |
| | **(ii)** 38 096 | 3 | **M1** largest/total **M1** "8/15" × 71 430 oe |
| | **(iii)** 15 385.5(0) | 3 | **M1** smallest/largest **M1** "3/8" × 41 028 oe |
| | **(b)** 17 630 | 3 | **M2** 21 500 × 0.82 or **B1** 0.82 or 82% or 82/100 or<br>**M2** 21 500 – 21 500 × 18/100 or **B1** 3870 |
| **5** | **(a)** May 12 www | 6 | **B1** correct date shift column **M1** products<br>**M1** Σ products **B1** 30 000 **M1** "Σ"/"30 000" |
| | **(b)** 20 392.32 | 6 | **M1** 400 × 60 **A1** 24 000<br>**M1** 0.86 × "24 000" **A1** 20 640 **M1** 0.988 × "20 640" or<br>**M1** 0.988 × "24 000" **A1** 23 712 **M1** 0.86 × "23 712" |
| **6** | **(a)** Allow 1170.68 or 1170.69 | 8 | **M1** (540 000 ÷ 20 000) × 36.15 **A1** 976.05<br>**M1** (25 000 ÷ 5000) × 51.25 **A1** 256.25<br>**M1** "976.05" + "256.25" **A1** 1232.3(0)<br>**M1** 0.95 × "1232.3(0)" |
| | **(b)** 152 000 or 0.152 million | 6 | **M1** figs 38 × 1.82 **A1** 6.916 or 6 916 000<br>**M1** "figs 6916" ÷ 1.75 **A1** 3.952 or 3 952 000<br>**M1** "figs 3952" – figs 3.8 |

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|---|---|---|---|
| **7** | **(a)** 17 250 000<br>10 800 000<br>6 750 000<br>5 700 000 | 4 | **B1**<br>**B1**<br>**B1**<br>**B1** |
| | **(b)** **(i)** 67 680 000 | 2 | **M1** 114 680 000 – 47 000 000 |
| | **(ii)** 11.9(288…) | 4 | **M1** "67 680 000" – 54 000 000 **A1** 13 680 000<br>**M1** ("13 680 000" ÷ 114 680 000) × 100 |
| | **(c)** 1 915 200 | 2 | **M1** "13 680 000" × 0.14 |

**Section B**

| | | | |
|---|---|---|---|
| **8** | **(a)** 32 | 4 | **M1** 6⅔ or 6h40m × 4 **M1** 5⅓ or 5h20m<br>**M1** "26⅔" + "5⅓" (26h40m) |
| | **(b)** 281.6(0) | 2 | **M1** 22 × 12.80 |
| | **(c)** **(i)** 8.6 or ft | 4ft | **M1** 2¾ or 2h 45m **M1** ("2¾" ÷ **(a)**) × 100 |
| | **(ii)** 13.44 | 2 | **A1** 8.59(375…) **B1** √<br>**M1** 1.05 x 12.80 or 12.80 + (5/100) × 12.80 |
| **9** | **(a)** **(i)** 4.15 | 1 | |
| | **(ii)** 4.26 | 2 | **M1** mention of $3\frac{1}{2}^{th}$ value or (4.15 + 4.37) ÷ 2 |
| | **(iii)** 4.5 | 4 | **M1** identifying 4.37, 4.52 and 4.61 **M1** Σ 3 terms<br>**M1** "Σ" ÷ 3 |
| | **(b)** 6396 | 5ft | **M1** 5600 x 1.0453 **M1** x 1.0453 **M1** x 1.0453<br>**A1** 6396.0(35686…) **B1** √ |
| **10** | **(a)** 80 85 125 160 195 | 4 | **B3** for 4 correct values **B2** for 3 correct values<br>**B1** for 2 correct values |
| | **(b)** **(i)** line for option B | 4 | **B1** (200,90) plotted<br>**B1** (0, their 80) or (500, their 90) plotted<br>**B1** for correct ruled line segment from (0,80) to (200,90)<br>**B1** for correct ruled line segment from (200,90) to (500,195) |
| | **(ii)** option B | 1ft | |
| | **(c)** 371 | 3 | **M1** 46/(0.35 – 0.08) **M1** 200 + "170.37" or<br>**SC3** 370 to 372 without working (from graph) |

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|---|---|---|---|
| **11** | **(a)** 8428.16 | 4 | **M1** 6500 × 1.28 **A1** 8320 **M1** "8320" × 1.013 |
| | **(b)** 273 | 2 | **M1** 6500 × 4.2 or 6500 × 0.042 |
| | **(c)** 6.25 | 3 | **M2** (1.36 – 1.28) × 100/1.28 or **M1** 1.36 – 1.28 = 0.08<br>OR<br>**M2** (136 – 128) ×100/128 or **M1** 136 – 128 = 8 |
| | **(d)** 1.32 | | **M1** 6209.28 ÷ 0.98 (= 6336)<br>**M1** "6336" ÷ 4800 or 6209.28 ÷ 4800 (= 1.2936) |