CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

<table>
<thead>
<tr>
<th>0417 INFORMATION AND COMMUNICATION TECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0417/02 Paper 2 (Practical Test A), maximum raw mark 80</td>
</tr>
</tbody>
</table>

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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.
SKKDSA is an engineering company specialising in chemical engineering. The company offers multi-disciplinary capabilities in project management for civil and structural engineering, as well as process, mechanical and electrical engineering projects. The company handles projects from analysis and design through to implementation, construction and testing.

Staff expertise

The company has, at present, a staff of over 75 engineers, designers and draftsmen with expertise in their civil/structural, process/mechanical, electrical and instrumentation engineering, as well as in the environmental and construction management departments. They are experienced in all aspects of industrial facility design and construction.

Project Management

Projects include municipal water and waste treatment facilities, desalination plants for sea and brackish water as well as surface water treatment, bulk materials handling and distribution.

Economic and Feasibility Studies
- Conceptual and Preliminary Design
- Construction Specifications and Contractor Bid Evaluation
- Conceptual Engineering and Estimating
- Planning and Scheduling
- Environmental
- Start-up Assistance
- Project and Construction Cost Estimating
- Construction Management
- Inspection/QA/QC
- Operator Training

SKKDSA is experienced in all aspects of design and construction management for the following types of facilities. They can design and install desalination plants, water treatment plants, pipeline and pumping stations for potable, irrigation, sewage and firefighting networks. Projects may be as diverse as oil refineries, hotel water treatments and systems aboard ships.
Instrumentation and Electrical Departments

Their **instrumentation** and electrical departments, which they believe must be among the largest and most proficient groups, have specialised in solving the problems of industrial clients such as Utility companies from drilling and production through refining and gas processing. They are deeply involved in attending to clients’ “emergency codes” as well as continuing their attention to state-of-the-art solutions in the industry. Many of their engineers have experience not only in instrumentation and electrical design but also have a solid background in inspection, installation, testing, start-up services, and project management. Most of the Senior Engineers on the staff have acted as Project Managers, both in-house and for various clients interfacing with other engineering firms.

The chart shows income generated from projects (and includes projected income from on-going work): The chart shows that the best year was 2011.

<table>
<thead>
<tr>
<th>Income from projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010: 5238000</td>
</tr>
<tr>
<td>2011: 4875000</td>
</tr>
<tr>
<td>2012: 1258000</td>
</tr>
<tr>
<td>2013: 2725000</td>
</tr>
<tr>
<td>2014: 5710000</td>
</tr>
</tbody>
</table>

**Mark Scheme:**
- Two spelling errors corrected: 1 mark
- Text added as stated: 1 mark
- Correct year 2011 identified: 1 mark
- Chart created from correct data: 1 mark
- Segments labelled with Commission values only: 1 mark
- Legend shows years: 1 mark
- Title correct as stated: 1 mark
- Highest Commission segment withdrawn/emphasised: 1 mark
- In correct place in document within column; not distorted: 1 mark
- Proof reading:
  - No widows/orphans, no split lists: 1 mark
  - Consistent paragraph spacing: 1 mark
  - Document complete, with no blank pages: 1 mark
<table>
<thead>
<tr>
<th>Country</th>
<th>Code</th>
<th>Client</th>
<th>Location</th>
<th>Process</th>
<th>Capacity</th>
<th>Cost</th>
<th>Year</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>SKA118</td>
<td>Saint Nazaire Shipyard</td>
<td>Queen Mary II</td>
<td>MED Steam</td>
<td>3 unit each 650m3/day</td>
<td>€120,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Germany</td>
<td>SKA122</td>
<td>EC</td>
<td>Hamburg</td>
<td>WTP</td>
<td>350</td>
<td>€455,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Germany</td>
<td>SKA121</td>
<td>Meyer Shipyard</td>
<td>Norwegian Dawn</td>
<td>MED Steam</td>
<td>3 unit each 750m3/day</td>
<td>€135,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>KSA</td>
<td>SKA106</td>
<td>HM</td>
<td>Jeddah</td>
<td>SWRO</td>
<td>200</td>
<td>€1,000,000.00</td>
<td>2015</td>
<td>No</td>
</tr>
<tr>
<td>KSA</td>
<td>SKA105</td>
<td>MC</td>
<td>Yanbu</td>
<td>Desalination Plant</td>
<td>750</td>
<td>€1,000,000.00</td>
<td>2015</td>
<td>No</td>
</tr>
<tr>
<td>Mexico</td>
<td>SKA124</td>
<td>HVP</td>
<td>Puerto Vallarta</td>
<td>WTP</td>
<td>500</td>
<td>€650,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>SKA123</td>
<td>JHD</td>
<td>Elche</td>
<td>WTP</td>
<td>350</td>
<td>€455,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>SKA115</td>
<td>JHD</td>
<td>Elche</td>
<td>WTP</td>
<td>350</td>
<td>€455,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>SKA112</td>
<td>DJJM</td>
<td>Almeria</td>
<td>WTP</td>
<td>350</td>
<td>€455,000.00</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>SKA110</td>
<td>DJM</td>
<td>Cartagena</td>
<td>RO</td>
<td>500</td>
<td>€455,000.00</td>
<td>2015</td>
<td>No</td>
</tr>
</tbody>
</table>

**Candidate details**

- Name, Centre number and candidate number on left below report 1 mark
- Sorted Country ascending 1 mark
- Orientation landscape Fits one page wide 1 mark
- Label 100% accurate 1 mark

**On-going projects**

- Report title as stated 1 mark
- All fields displayed, data and labels all fully visible 1 mark
- Search Completed is No 1 mark
- Three new records added as stated 3 marks

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## Projects since 2010

<table>
<thead>
<tr>
<th>Code</th>
<th>Client</th>
<th>Country</th>
<th>Process</th>
<th>Year</th>
<th>Completed</th>
<th>Commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKA095</td>
<td>EC</td>
<td>Germany</td>
<td>WTP</td>
<td>2010</td>
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<tr>
<td>SKA096</td>
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<td>2010</td>
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<td>€91,000.00</td>
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<td>Mexico</td>
<td>RO</td>
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<td>Yes</td>
<td>€208,000.00</td>
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<tr>
<td>SKA098</td>
<td>HCM</td>
<td>Mexico</td>
<td>RO</td>
<td>2010</td>
<td>Yes</td>
<td>€104,000.00</td>
</tr>
<tr>
<td>SKA099</td>
<td>HLG</td>
<td>Mexico</td>
<td>RO</td>
<td>2010</td>
<td>Yes</td>
<td>€234,000.00</td>
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<tr>
<td>SKA107</td>
<td>Community</td>
<td>Germany</td>
<td>MVC</td>
<td>2011</td>
<td>Yes</td>
<td>€130,000.00</td>
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<tr>
<td>SKA117</td>
<td>Meyer Shipyard</td>
<td>Germany</td>
<td>MED Steam</td>
<td>2011</td>
<td>Yes</td>
<td>€78,000.00</td>
</tr>
<tr>
<td>SKA101</td>
<td>HLP</td>
<td>Mexico</td>
<td>RO</td>
<td>2011</td>
<td>Yes</td>
<td>€78,000.00</td>
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<tr>
<td>SKA103</td>
<td>HVP</td>
<td>Mexico</td>
<td>RO</td>
<td>2011</td>
<td>Yes</td>
<td>€78,000.00</td>
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<tr>
<td>SKA109</td>
<td>NCDP</td>
<td>Egypt</td>
<td>MVC</td>
<td>2012</td>
<td>Yes</td>
<td>€23,400.00</td>
</tr>
<tr>
<td>SKA108</td>
<td>Community</td>
<td>Germany</td>
<td>MVC</td>
<td>2012</td>
<td>Yes</td>
<td>€78,000.00</td>
</tr>
<tr>
<td>SKA119</td>
<td>Meyer Shipyard</td>
<td>Germany</td>
<td>MED Steam</td>
<td>2012</td>
<td>Yes</td>
<td>€78,000.00</td>
</tr>
<tr>
<td>SKA111</td>
<td>DAB</td>
<td>Spain</td>
<td>RO</td>
<td>2011</td>
<td>Yes</td>
<td>€1,300.00</td>
</tr>
<tr>
<td>SKA120</td>
<td>Meyer Shipyard</td>
<td>Germany</td>
<td>MED Steam</td>
<td>2013</td>
<td>Yes</td>
<td>€15,600.00</td>
</tr>
<tr>
<td>SKA113</td>
<td>Cubiglas</td>
<td>Spain</td>
<td>RO</td>
<td>2013</td>
<td>Yes</td>
<td>€27,000.00</td>
</tr>
</tbody>
</table>

**Commission earned from projects**: €1,469,900.00

- **Report title as stated**: 1 mark
- **6 original fields displayed in this order**: 1 mark
- **6 original fields, data and labels all visible**: 1 mark
- **Select Completed is Yes**: 1 mark
- **Date is >2009**: 1 mark
- **Sorted Year ascending, then Country ascending**: 1 mark
- **New field Commission, positioned on right**: 1 mark
- **Calculated cost * 20%**: 1 mark
- **Formatted Euros with 2dp**: 1 mark
- **Calculated value of commission income**: 1 mark
- **Placed below Commission column and formatted as Euros with 2dp**: 1 mark
- **Label 100% accurate and placed to left**: 1 mark

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Some technical terms
Presentation by: name etc.

Slide 1 title and subtitle 1 mark
Text as given 1 mark
Alignment - title-left / subtitle-right 1 mark

Four slides imported as title and bullets 1 mark
Printed layout three slides per page 1 mark

Transitions applied to all slides 1 mark
Page layout
A4 Landscape (screenshot)  1 mark
Margins all 2 cms (screenshot)  1 mark

New contact
Maryam Sayed  m.sayed@cie.org.uk  1 mark
Database structure
Fields with specified data types (Capacity not numeric) 1 mark
Cost is currency & displayed as Euros with 2dp in report 1 mark
Completed is logical 1 mark
displayed as Yes/No or checkbox in reports 1 mark

Count records 1 mark

New message
To design.h@cie.org.uk and
CC: Maryam Sayed 1 mark

Subject Company profile 1 mark
Report only attached file 1 mark
Name, Centre No & candidate no with
Please approve this first draft of the report. 1 mark