CHEMISTRY PERFECT SCORE MODULE
FORM 4

GUIDELINES
### HURAIAN PENGGUNAAN MODUL PERFECT SCORE KIMIA TINGKATAN 4 2010

<table>
<thead>
<tr>
<th>Bil</th>
<th>Isi kandungan</th>
<th>Objektif</th>
<th>Catatan</th>
<th>Sasaran</th>
</tr>
</thead>
</table>
| 1   | Teknik Menjawab | Pendedahan Kepada Format Pentaksiran dan mematapkan jawapan pelajar dalam kertas 2 dan 3. | ● Mengandungi  
   i. Format Instrumen Kimia kertas 2 dan 3  
   ii. Panduan menjawab kertas 2 dan 3.  
   iii. Kata Tugas dalam soalan.  
   ● Diberi pendedahan kepada pelajar semasa Program Perfect Score. | Semua pelajar |
| 2   | Set 1 | Memantapkan penguasaan konsep asas kimia serta memberikan pendedahan kepada bentuk item peperiksaan SPM dan teknik menjawab. | ● Mengandungi nota ringkas, mengisi tempat kosong, latihan pengiraan yang ringkas dan soalan format kertas 2 dan 3 topik:  
   (i) Struktur Atom  
   (ii) Formula Kimia dan Persamaan Kimia  
   ● Digunakan oleh guru kimia untuk semua pelajar tingkatan 4. | Semua pelajar |
| 3   | Set 2 | Memantapkan penguasaan konsep kimia. Memantapkan teknik menjawab. | ● Mengandungi nota ringkas, mengisi tempat kosong dan mengandungi soalan format kertas 2 dan 3 topik:  
   (i) Jadual Berkala Unsur  
   (ii) Ikatan Kimia  
   ● Diberi pendedahan kepada pelajar semasa Program Perfect Score | Semua Pelajar |
| 4   | Set 3 | Memantapkan penguasaan konsep kimia. Memantapkan teknik menjawab. | ● Mengandungi nota ringkas, mengisi tempat kosong dan mengandungi soalan format kertas 2 dan 3 topik:  
   (i) Asid, Bes  
   (ii) Garam  
   ● Diberi pendedahan kepada pelajar semasa Program Perfect Score | Semua Pelajar |
| 5   | Set 4 | | ● Mengandungi soalan format kertas 2 dan 3 topik:  
   (i) Bahan Kimia Dalam Industri  
   ● Diberi pendedahan kepada pelajar semasa Program Perfect Score | Semua Pelajar |
GUIDELINES AND ANSWERING TECHNIQUES FOR SPM CHEMISTRY PAPER

1.0 FORMAT OF AN INSTRUMENT OF CHEMISTRY BEGINNING SPM 2003

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Paper 1 (4541/1)</th>
<th>Paper 2 (4541/2)</th>
<th>Paper 3 (4541/3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type of instrument</td>
<td>Objective test</td>
<td>Subjective test</td>
<td>Written Practical Test</td>
</tr>
<tr>
<td>2</td>
<td>Type of item</td>
<td>Objective item</td>
<td>Section A: Structured Item</td>
<td>Subjective Item: Structured Item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Section B: Essay restricted response Item</td>
<td>Extended Response Item: (Planning an experiment)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Section C: Essay extended response Item</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Number of question</td>
<td>50 (answers all)</td>
<td>Section A: 6 (answer all)</td>
<td>Structured Item: 2 items (answer all)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Section B: 2 (choose one)</td>
<td>Extended Response Item: 1 item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Section C: 2 (choose one)</td>
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</tr>
<tr>
<td>5</td>
<td>Duration of time</td>
<td>1 hour 15 minutes</td>
<td>2 hour 30 minutes</td>
<td>1 hour 30 minutes</td>
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</tbody>
</table>

2.0 CONSTRUCT REQUIREMENT

<table>
<thead>
<tr>
<th>Construct</th>
<th>Paper 1 (No 1-20)</th>
<th>Paper 2 (No 21-35)</th>
<th>Paper 3 (No 36-50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>20 m</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>Understanding</td>
<td>15 m</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Application</td>
<td>15 m</td>
<td>29</td>
<td>-</td>
</tr>
<tr>
<td>Analysis</td>
<td>-</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Synthesizing</td>
<td>-</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Science process</td>
<td>-</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>Total mark</td>
<td>50</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

3.0 TIPS TO SCORE “A” CHEMISTRY

3.1 Master the topics that contain the basic concepts of chemistry:
   1. The structure of the atom
   2. Chemical Formulae And Equations
   3. Periodic Table
   4. Chemical Bond

3.2 Familiarize with different types of questions as listed below and complete the previous SPM papers:
   1. Objectives questions (MCQ) (Paper 1)
   2. Structured questions (Paper 2 & 3)
   3. Essays (Paper 2)
   4. Planning an experiment (Paper 3)
   5. Draw and label the diagram
   6. Writing chemical equation (balanced equation, ionic equation, half equation)
3.3 Try to get:-
- 40 marks above for paper 1
- 60 marks above for paper 2
- 40 marks above for paper 3
(Total = 140/2 = 70 (-A))

4.0 GUIDELINE FOR ANSWERING PAPER 1

4.1 Paper 1 questions test students on
1. Knowledge (Number 1 – 20)
2. Understanding (Number 21 – 35)
3. Application (Number 36 – 50)

4.2 Score in paper 1 Indicates student’s level of understanding in chemistry:
Less than 20 – very weak
20 – 25 - weak
26 – 30 - average
31 – 39 - good
40 – 45 - very good
46 – 50 - excellent.

4.3 Answer all SPM objective questions. Objective questions for each year contain all topics. If your score in paper 1 is 40 and above, you will able to answer questions in paper 2 & 3 easily.

5.0 GUIDELINE FOR ANSWERING PAPER 2 (STRUCTURE AND ESSAY)

5.1 Paper 2 questions test student on
1. Knowledge
2. understanding
3. analyzing
4. Synthesizing.

5.2 Steps taken are:
1. Underline the command word and marks allocated for each question.
2. Match the command word to the mark allocated for each question. 1 point is awarded 1 mark.
3. Follow the needs of the question (Refer to the command words, page ……)
4. Unnecessary repetition of the statement in the question is not required.

5.3 Three types of questions which involve experiments in paper 2:
I. Type 1
Describe an experiment on………………….Include a labeled diagram in your answer
1. Diagram
2. Procedure
3. Observation/example/data/calculation/equation/sketch of graph/conclusion
II.  Type 2
Describe an experiment…………… (The diagram will support your answer.)
1. No mark is allocated for a diagram
2. Procedures
3. Observation/example/calculation/equation/sketch of graph/conclusion

III. Type 3
Describe a chemical/confirmatory test for ……
1. Procedure
2. Observation
3. Conclusion

6.0 GUIDELINE FOR ANSWERING PAPER 3

6.1 Structure Question: Test the Mastery of 11 Scientific Skills
1. Observing
2. Classifying
3. Inferring
4. Measuring (burette, stopwatch, thermometer, voltmeter)
5. Predicting
6. Communicating (e.g. construct table and draw graph)
7. Space-Time Relationship
8. Interpreting Data
9. Defining Operationally
10. Controlling Variables
11. Hypothesizing

Each answer is allocated mark as follows: 3 marks/2 marks/1 mark/0
Score: 11 X 3 = 33

6.2 Essay question: Test the Mastery of Planning Experiment.

Planning should include the following aspects:
1. Aim of the experiment / Statement of the problem
2. All the variables
3. Statement of the hypothesis
4. List of substances / material and apparatus – should be separated
5. Procedure of the experiment
6. Tabulation of data

Score: 6 X 3 = 18 (Maximum marks : 17)
• The question normally starts with certain situation related to daily life.
• Problem statement/ aim of the experiment / hypothesis and variable can be concluded from the situation given.
• State all the variables
  – Manipulated variable :
  – Responding variable :
  – Constant variable: list down all the fixed variables to ensure the outcome of the responding variable is related only to the manipulated variables.
• Separate the substances and apparatus
• Procedure :
  – All the steps taken in the procedure must include the apparatus used, quantity and type of substance ( powder, solution, lumps … etc).
  – No mark is allocated for the diagram. The complete labeled diagram can help students in :
    (i) Writing the steps taken in the procedure
    (ii) Listing the apparatus and materials
• Tabulation of data:
  – The number of columns and rows in the table is related to the manipulated and responding variables
  – **Units must be written** for all the titles in each row and column of the table
  – **DO NOT WRITE** the observation/inference/conclusion in the table.