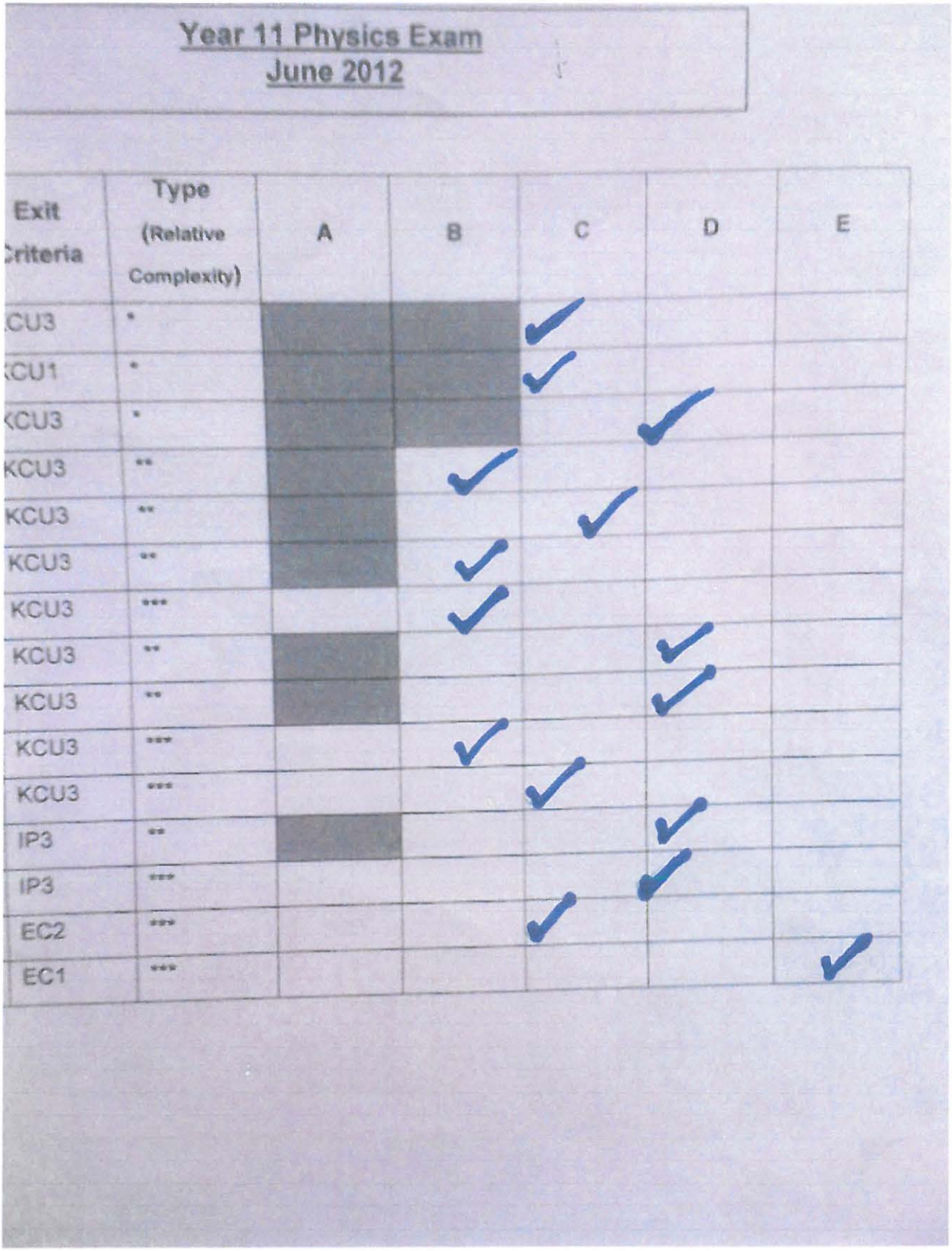
Tabled 10.35am AFA

	A	B	C	D	E
Knowledge and Conceptual Understanding	Complex and challenging concepts and theories have been reproduced and interpreted	Complex or challenging concepts and theories have been reproduced and interpreted	Concepts and theories have been reproduced	Simple ideas and concepts have been reproduced	Isolated fact and combustion facts have been reproduced
	Complex observed phenomena have been explained by comparing them to theoretical predictions	Observed phenomena have been explained by comparing them to theoretical predictions	Simple observed or expected phenomena have been explained	Simple observed or expected phenomena have been described	Simple isolated phenomena have been recognised
	Algorithms and concepts have been linked and applied in complex and challenging situations	Algorithms and concepts have been linked and applied in complex or challenging situation	Algorithms have been applied in simple situations	Algorithms have been applied	Simple given algorithms have been applied
	A	B	C	D	E
Investigative Processes	A significant, justified question or hypothesis has been formulated The experimental design is efficient, effective and has been refined by the student	A justified question or hypothesis has been formulated An experiment has been designed in response to the question/hypothesis	A question or hypothesis has been formulated A suitable standard investigation has been selected	A given investigation has been implemented	Given procedures have been used with guidance
	Risks to safety have been assessed and the investigation has been managed. Technology has been appropriately selected, applied and adapted to gather, record and process valid data	Risks to safety have been assessed and the investigation has been managed. Technology has been appropriately selected and applied to gather, record and process data	Risks to safety have been assessed and the investigation has been managed. Technology has been appropriately selected and applied to gather and record data	Equipment and technology have been safely used. Technology has been used to gather and record data	Safe procedures have been followed under supervision. Equipment has been used to gather data
	[illegible]	Data has been analysed to identify patterns and trends. Data has been analysed to identify errors and anomalies	Data has been analysed to identify obvious patterns and trends. Data has been analysed to identify obvious errors and anomalies	Obvious patterns in the data have been identified. Obvious errors in the data have been identified	Data has been recorded
	A	B	C	D	E
Evaluating and Concluding	Complex relationships between variables have been analysed	Complex relationships between variables have been analysed	Relationships between variables have been described	Simple relationships between variables have been identified	Obvious relationships between variables have been identified
	Extensions or adaptations of the investigation have been explored. The conclusion has been justified	Extensions or adaptations of the investigation have been explained. The conclusion has been discussed	Extensions or adaptations of the investigation have been described. A conclusion has been stated	Improvements or possible outcomes of the investigation have been identified	A statement has been made about the outcome of the investigation
	Data and ideas have been selected with discrimination to make meaning clear. A range of tables and graphs have been used innovatively.	Data and ideas have been selected to make meaning clear. A range of tables and graphs have been used.	Data and ideas have been selected to convey meaning. A range of formats have been used.	Data or ideas have been presented in a range of formats	Scientific data or ideas have been presented

Criteria-standards marking sheet provided by QSA (20th March, 2013) to parliament.

Note: the coloured sections are those that had to be fulfilled by students to get A standard gradings. (see p4)
The orange box was unclear but the criteria ('standards') the students had to match in their essays were:
"Data has been systematically analysed to identify relationships between patterns, trends, errors & anomalies"

Real-life student's results-sheet



Year 11 Physics Exam
June 2012

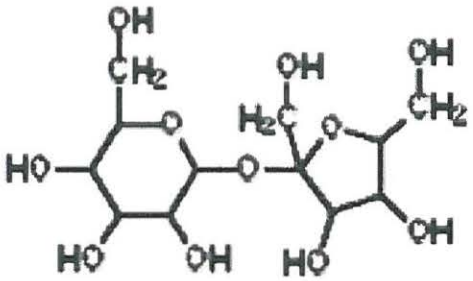
Exit Criteria	Type (Relative Complexity)	A	B	C	D	E
CU3	*			✓		
CU1	*			✓		
CU3	*				✓	
KCU3	**		✓			
KCU3	**			✓		
KCU3	**		✓			
KCU3	***		✓			
KCU3	**				✓	
KCU3	**				✓	
KCU3	***		✓			
KCU3	***			✓		
IP3	**				✓	
IP3	***				✓	
EC2	***			✓		
EC1	***					✓

Q.1
Q.2
Q.3

QSA has published instructions to teachers to block off 'A's and 'B's grades. That is, core knowledge questions are deemed too low 'standard'. Therefore, the average student who gets the description correct (half-right answer) gets a 'D'.

Note: teachers know this. That is why they do not need more workshops, nor 'professional development', nor 'support' – The fact is: they do not want to use flawed letter-marking of each question that demoralises students

Accessed 5th June, 2013 http://www.qsa.qld.edu.au/downloads/senior/snr_chemistry_07_as_samp_1.pdf



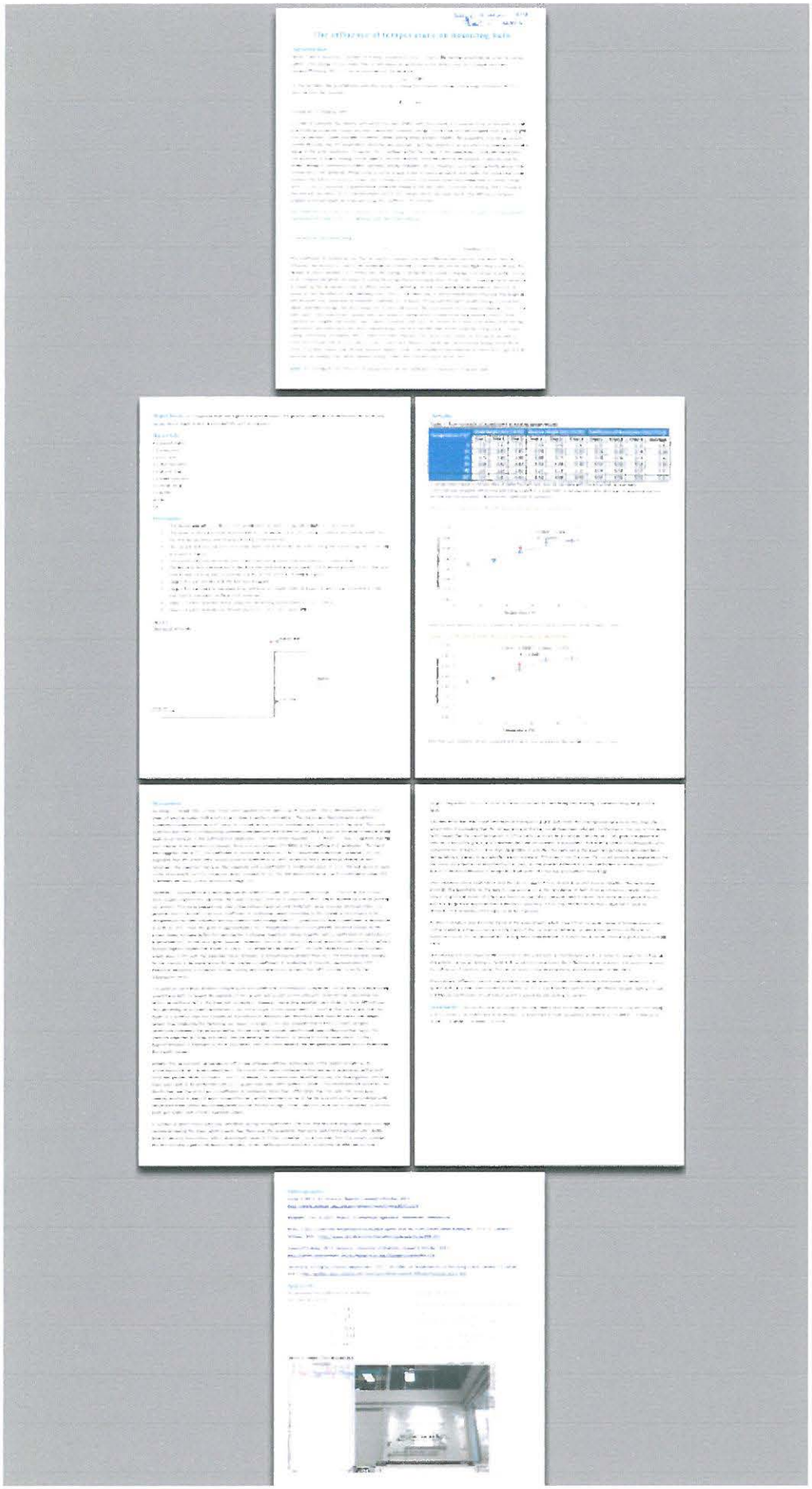
KCU
Describe and explain

Most covalent molecular substances exist as gases or liquids or waxy solids at room temperature. Explain why this is the case and why sucrose is different and able to exist with a crystalline structure.

KCU
Link and apply

Criteria	A	B	C	D	E
KCU Describe and explain	This question does not allow students to compare and explain complex concepts.		Explains general physical properties of covalent molecular substances in terms of their structure	Describes structure and/or general physical properties of covalent molecular substances	Recognises isolated chemical facts about covalent molecular substances
KCU Link and apply	This question does not allow students to demonstrate explanation of complex concepts and processes.	Links and applies principles relating bonding type and forces of attraction to physical properties of sucrose	Applies principles relating bonding type and forces of attraction to physical properties of sucrose	Applies principles relating forces of attraction to physical properties of sucrose	Recognises forces of attraction and/or physical properties of sucrose

Queensland Studies Authority
Ground floor, 295 Ann Street, Brisbane PO Box 307, Spring Hill Queensland 4004
Phone: (07) 3864 0299; Fax: (07) 3221 2553; Email: office@qsa.qld.edu.au; Website: www.qsa.qld.edu.au



QSA's eg of a 'reasonable' assignment - yet went over QSA's own recommendations; also demonstrated errors in data and calculations, yet was awarded 'A's in marking

CURRENT: Qld CHEMISTRY Syllabus (2007) QSA (NB: No detailed subject content)

Appendix 3: Indication of depth of treatment

The following lists provide suggestions for content. Content has been listed under the organisers to provide an indication of suggested subject matter for inclusion. Some content will be applicable under one or more of the organisers, and in those cases it has been repeated. The content listed is not exhaustive.

QSA's current "Physics Senior Syllabus 2007": No specific content is mandated.

Forces

- Analysis of scalar and vector quantities using algebraic and graphical techniques, e.g. motion, energy, force, momentum
- Quantitative treatment of mechanical contact forces (simple to complex treatments), e.g. equilibrium problems, inclined plane problems
- Qualitative and quantitative treatment of internal and external energy transfers, e.g. heat, kinetic theory and electricity
- Quantitative treatment of ideal gases
- Quantitative treatment of non-contact forces, e.g. magnetic and electric:

$F = Bqv\sin\theta$ $F = BIL\sin\theta$ $E = \frac{F}{Q}$

PREVIOUS: Qld CHEMISTRY Syllabus (1995) Qld Board of Senior Secondary School Studies

6 Core Requirements

"This syllabus has been designed to cater for a four-semester course of study of not less than 55 hours per semester of timetabled school time, including time for assessment and field work.
The subject matter has been arranged into nine topics, for which core minimum depth of treatment and ideas for extension have been detailed. Within this syllabus, 'core material' is defined as the minimum set of common experiences that all students of the subject should have." (p. 12)

"It is essential for students to be confident in the use of quantitative terms and reliable data within a fundamental framework of the concepts of space and time." (p. 14)

Previous Syllabus had detailed core knowledge

Topic 2 Forces and Motion

Resources (example textbooks)
Physics for a Modern World, Bunn, Jacaranda Wiley, chaps 3–7 and 10; Fundamentals of Senior Physics Parham & Webber, Heinemann Educational Aust.

CORE MATERIAL	MINIMUM DEPTH OF TREATMENT OF CORE	IDEAS FOR EXTENSION MATERIAL
1. Linear uniform motion	• Scalar/Vector quantities. Distance/Displacement. Speed/Velocity. Acceleration. Construction and interpretation of graphs of the above with time. • Quantitative analyses of the above graphs. • Problems involving equations for linear uniform motion Uniform velocity: $v = s/t$ Uniform acceleration: $v = u + at$ $s = \frac{1}{2}(u + v)t$ $s = ut - \frac{1}{2}at^2$ $s = (v^2 - u^2)/2a$	• Free fall involving terminal velocity • Pressure and density $P = F/A$ $\rho = m/V$ and application to fluids $P = \rho gh$ and Pascal's Principle • Archimedes' Principle and its application to buoyancy • Fluid dynamics, streamline and turbulent flow • Rotational motion: angular displacement, velocity and acceleration, torque, moments of inertia, couples, principle of moments • Motion of satellites and planets (combining the universal law of gravitation and uniform circular
2. Forces and Newton's Laws of Motion	• Newton's three Laws of Motion • Quantitative treatment of mechanical contact forces and weight $F = ma$ $W = mg$	