Year 11 Physics

Yearly Examination 2023

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| **TOPIC**: Yearly Examination | **MARKS:** /75 |
| **SUBMISSION REQUIREMENTS:**  Students complete task during weeks 9/10, in accordance with the examination timetable. | **WEIGHTING:**  35% |
| **OUTCOMES TO BE ASSESSED:**  **PH11-1 Develop** and evaluates questions and hypothesis for scientific investigation  **PH11-2 Designs** and evaluates investigations in order to obtain primary and secondary data and information  **PH11-3** Conducts investigations to **collect** valid and reliable primary and secondary data and information  **PH11-4 Selects** and processes appropriate qualitative and quantitative data and information using a range of appropriate media  **PH11-5 Analyses** and evaluates primary and secondary data and information  **PH11-6 Solves** scientific problems using primary and secondary data, critical thinking skills and scientific processes  **PH11-7 Communicates** scientific understanding using suitable language and terminology for a specific audience or purpose  **PH11-10 Explains** and analyses waves and the transfer of energy by sound, light and thermodynamic principles | |
| **DIRECTIONAL VERBS:**  **Analyse ‐** Identify components and the relationship between them; draw out and relate implications  **Collect –** Make reading of and accurately record experimental data, curate research data to support a scientific discussion  **Communicate –** Present scientific ideas and demonstrate understanding in a clear and meaningful way  **Design –** Create an accurate and valid investigation through a process of research, trial, error and reflection  **Develop –** Evolve a question and/or hypothesis by synthesising new knowledge and understanding  **Evaluate ‐** Make a judgement based on criteria; determine the value of  **Explain ‐** Relate cause and effect; make the relationships between things evident; provide why and/or how  **Select –** Choose valid and reliable resources from all available resources  **Solves –** Find solutions to problems | |
| **TASK DESCRIPTION:**  Students are to complete a written examination based on Module 1 (Properties and Structure of Matter), Module 2 (Introduction to Quantitative Chemistry), Module 3 (Reactive Chemistry) and Module 4 (Drivers of Reactions).  The examination will be set out as follows:  Duration: 2 hours  Total marks: 75  Examination consists of the following components:   * 20 multiple choice questions (20 marks) – worth 1 mark each across all 4 modules * Short and extended responses (55 marks) – ranging from 1-6 marks across all 4 modules   Students will answer questions as instructed on the examination paper on either the answer sheets or booklets that will be provided. | |

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| **ASSESSMENT CRITERIA:**  Students will be assessed in accordance with the allocated mark(s) for each question. The marking criteria and feedback will be provided to all students on the return of their examination paper. All marking will adhere to the struct marking criteria for each question.  Students are encouraged to complete regular revision in the lead up to the assessment task, this includes completing CANVAS activities and reviewing available resources, and utilising ATOMI and EdRolo.  Both multiple choice, and short and extended responses will assess the following areas of the syllabus:   * Module 1: **Inquiry question:** How is the motion of an object moving in a straight line described and predicted? * Module 1: **Inquiry question:** How is the motion of an object that changes its direction of movement on a plane described? * Module 2: **Inquiry question:** How are forces produced between objects and what effects do forces produce? * Module 2: **Inquiry question:** How can the motion of objects be explained and analysed? * Module 2: **Inquiry question:** How is the motion of objects in a simple system dependent on the interaction between the objects? * Module 3: **Inquiry question:** What are the properties of all waves and wave motion? * Module 3: **Inquiry question:** How do waves behave? * Module 3: **Inquiry question:** What evidence suggests that sound is a mechanical wave? * Module 3: **Inquiry question:** What properties can be demonstrated when using the ray model of light? * Module 3: **Inquiry question:** How are temperature, thermal energy and particle motion related? * Module 4: **Inquiry question:** How do charged objects interact with other charged objects and with neutral objects? * Module 4: **Inquiry question:** How do the processes of the transfer and the transformation of energy occur in electric circuits? * Module 4: **Inquiry question:** How do magnetised and magnetic objects interact? |

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| **OUTCOME BREAKDOWN** | | |
| **Outcome** | **Parts** | **Marks** |
| PH11-1 ( /4) | Part B: Aim | /2 |
|  | Part B: Hypothesis | /2 |
| PH11-2 ( /5) | Part B: Method | /3 |
| Part B: Conclusion | /2 |
| PH11-3 ( /4) | Part B: Results | /2 |
| Part B: References | /2 |
| PH11-4 ( /3) | Part B: Results | /1 |
| Part B: References | /2 |
| PH11-5 ( /3) | Part B: Discussion | /3 |
| PH11-6 ( /6) | Part A: Model Design | /6 |
| PH11-7 ( /5) | Part B: Abstract | /2 |
| Part B: Conclusion | /3 |
| PH11-10 ( /15) | Part A: Model Design | /5 |
| Part B: Discussion | /8 |
|  | Part B: References | /2 |
| Part A: 15 |  | Part B: 30 |