

**Year 13 Mock Examinations**  
**Monday 6<sup>th</sup> January - Friday 17<sup>th</sup> January 2025**

Subject	Summary of Exam (Type/length)	Topic content
<b>Art</b>	5 Hour practical development piece	<p>Students will sit a controlled assessment producing a finished outcome or a series of related finished outcomes to their coursework unit (Personal investigation).</p> <p>The outcome must be a response to the preparatory work they have already completed. Students should be drawing from their own ideas, thoughts, and artistic exploration.</p> <p>The controlled assessment allows them to refine their ideas and experimentation into an outcome that showcases their individual interpretation and creativity. Students are given the freedom to choose any materials they feel most comfortable with or that will best express their ideas.</p> <p>The assessment and coursework unit combined will measure how students have achieved the following assessment objectives:</p> <ul style="list-style-type: none"> <li>• AO1: Develop ideas through sustained and focused investigations informed by contextual and other sources, demonstrating analytical and critical understanding.</li> <li>• AO2: Explore and select appropriate resources, media, materials, techniques and processes, reviewing and refining ideas as work develops.</li> <li>• AO3: Record ideas, observations and insights relevant to intentions, reflecting critically on work and progress.</li> <li>• AO4: Present a personal and meaningful response that realises intentions and, where appropriate, makes connections between visual and other elements.</li> </ul>
<b>Biology</b>	<p><b>Paper 1 and Paper 2</b> 1 hour and 30 minutes 80 Marks</p> <p><b>Section A</b> (20 marks) This will consist of 20 multiple choice questions</p> <p><b>Section B</b> (60 marks) This will consist of structured questions</p>	<p><b>Paper 1: The topics that will be covered are as follows.</b></p> <ul style="list-style-type: none"> <li>• <b>Module 1:</b> Practical skills</li> <li>• <b>Module 2:</b> Foundations in Biology</li> <li>• <b>Module 3:</b> Exchange and Transport</li> <li>• <b>Module 5:</b> This will include Chapter 13 Neuronal Communication and Chapter 14 Hormones.</li> </ul> <p><b>Paper 2: The topics that will be covered are as follows.</b></p> <ul style="list-style-type: none"> <li>• <b>Module 1:</b> Practical skills</li> <li>• <b>Module 2:</b> Foundations in Biology</li> <li>• <b>Module 4:</b> Biodiversity, Evolution, and Diseases</li> <li>• <b>Module 5:</b> This will include Chapters 17 Energy for biological processes including photosynthesis and Chapter 18 Respiration.</li> </ul>

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<b>Business</b>	<p><b>Paper 1</b> 1 hour 30 minutes 75 marks</p> <p><b>Paper 2</b> 1 hour 30 minutes 75 marks</p>	<p><b>Paper 1 topics</b></p> <ul style="list-style-type: none"> <li>• What is business: Types of business ownership</li> <li>• Operations: Capacity utilisation, unit costs, outsourcing, lean, turnover, inventory control</li> <li>• Marketing: Boston Matrix, pricing strategies, niche markets, income and price elasticity</li> <li>• Human Resources: Motivation theories</li> <li>• Finance: Costs, revenue and profit, break even, efficiency ratios, liquidity ratios</li> <li>• External Influences: Emerging economies</li> </ul> <p><b>Paper 2 topics</b></p> <ul style="list-style-type: none"> <li>• Investment appraisals</li> <li>• Profitability and efficiency ratios</li> <li>• Shares and share prices</li> <li>• Financial documents</li> <li>• Capital intensive operations</li> <li>• Human resource data</li> <li>• The role of management</li> <li>• Elkington's triple bottom line</li> <li>• Market research</li> <li>• Stakeholder mapping</li> </ul>
<b>Chemistry</b>	<p><b>Paper 1</b> Advanced Inorganic and Physical Chemistry 75 marks</p> <p>1 hour 30 minutes</p> <p><b>Paper 2</b> Advanced Organic and Physical Chemistry 75 marks</p> <p>1 hour 30 minutes</p>	<p><b>Paper 1 topics:</b></p> <p>Topic 1 Atomic Structure and the Periodic Table Topic 2 Bonding and Structure Topic 3 Redox Chemistry Topic 4 Inorganic Chemistry and the Periodic Table Topic 5 Formulae, Equations and Amounts of Substance Topic 8 Energetics 1 Topic 10 Equilibrium I Topic 11 Equilibrium II Topic 12 Acid-Base Equilibria Topic 13 Energetics II Topic 14 Redox II</p> <p><b>Paper 2 topics:</b></p> <p>Topic 2 Bonding and Structure Topic 3 Redox Chemistry Topic 5 Formulae, Equations and Amounts of Substance Topic 6 Organic Chemistry I Topic 7 Modern Analytical Techniques Topic 9 Kinetics I Topic 14 Redox II Topic 17 Organic Chemistry II</p>

<p><b>Computer Science</b></p>	<p><b>Paper 1</b>  <b>Computer Systems</b>  1 hour 30 minutes</p> <p><b>Paper 2</b>  <b>Computational Thinking</b>  1 hour 30 minutes</p>	<p><b>Paper 1: Computer Systems (H446/1)</b>  <b>Characteristics of contemporary processors, input, output, and storage devices</b></p> <ul style="list-style-type: none"> <li>• CPU architecture (von Neumann, Harvard)</li> <li>• Processor components (ALU, registers, control unit)</li> <li>• Factors affecting performance (clock speed, cores, cache)</li> <li>• Input, output, and storage devices</li> <li>• Secondary storage and cloud computing</li> </ul> <p><b>Software and software development</b></p> <ul style="list-style-type: none"> <li>• Types of software (system, application, utility)</li> <li>• Operating systems (functions, types, interrupts)</li> <li>• Software development methodologies (waterfall, agile, etc.)</li> <li>• Programming paradigms (procedural, object-oriented, functional)</li> </ul> <p><b>Exchanging data</b></p> <ul style="list-style-type: none"> <li>• Compression (lossy vs. lossless)</li> <li>• Encryption and hashing</li> <li>• Databases (relational databases, SQL)</li> <li>• Networks (topologies, protocols, client-server model)</li> </ul> <p><b>Data types, data structures, and algorithms</b></p> <ul style="list-style-type: none"> <li>• Primitive and composite data types</li> <li>• Abstract data types (queues, stacks, graphs, trees)</li> <li>• Sorting and searching algorithms (bubble sort, binary search, etc.)</li> </ul> <p><b>Legal, moral, ethical, and cultural issues</b></p> <ul style="list-style-type: none"> <li>• Data protection laws (e.g., GDPR)</li> <li>• Ethical issues in computing (AI, privacy, hacking)</li> <li>• Environmental impact of technology</li> <li>• Intellectual property and licensing</li> </ul> <p><b>Paper 2: Algorithms and Programming (H446/2)</b>  Focuses on problem-solving, algorithms, and computational thinking.</p> <p><b>Elements of computational thinking</b></p> <ul style="list-style-type: none"> <li>• Abstraction, decomposition, pattern recognition</li> <li>• Algorithms and problem-solving</li> </ul> <p><b>Problem-solving and programming</b></p> <ul style="list-style-type: none"> <li>• Writing, testing, and refining code</li> <li>• Debugging and error types (syntax, runtime, logic)</li> <li>• Developing robust programs (validation, error handling)</li> </ul> <p><b>Algorithms</b></p> <ul style="list-style-type: none"> <li>• Efficiency of algorithms (Big O notation)</li> <li>• Algorithms for searching (e.g., binary search)</li> <li>• Algorithms for sorting (e.g., merge sort, quicksort)</li> <li>• Graph traversal algorithms (e.g., Dijkstra's, A*, depth-first, breadth-first)</li> </ul> <p><b>Boolean algebra</b></p> <ul style="list-style-type: none"> <li>• Logic gates and truth tables</li> <li>• Boolean expressions and simplification (Karnaugh maps, De Morgan's laws)</li> </ul> <p><b>Programming techniques</b></p> <ul style="list-style-type: none"> <li>• Recursion</li> </ul>
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Subject	Summary of Exam (Type/length)	Topic content
		<ul style="list-style-type: none"> <li>• Use of IDEs (integrated development environments)</li> <li>• Structured, modular, and object-oriented programming (OOP) concepts</li> </ul> <p><b>Data structures</b></p> <ul style="list-style-type: none"> <li>• Implementation of stacks, queues, linked lists, trees, and graphs</li> <li>• Use cases and limitations of data structures</li> </ul>
Economics	<p style="text-align: center;"><b>Paper 1</b> <b>Microeconomics</b> Themes 1 and 3 1 hour 30 minutes</p> <p style="text-align: center;"><b>Paper 2</b> <b>Macroeconomics</b> Themes 2 and 4 1 hour 30 minutes</p>	<p><b>Paper 1 Topics</b></p> <ul style="list-style-type: none"> <li>• Nature of Economics</li> <li>• Supply and demand</li> <li>• Price determination - consumer/producer surplus</li> <li>• Elasticity</li> <li>• Consumer spending/producer income</li> <li>• Understanding of microeconomic effects</li> <li>• Monopoly (including relevant diagrams)</li> <li>• Concept of Monopoly Power</li> <li>• Monopolistic Competition (including relevant diagrams)</li> </ul> <p><b>Paper 2 Topics</b></p> <ul style="list-style-type: none"> <li>• Monetary policy</li> <li>• Components of AD (Consumption)</li> <li>• Multiplier Effects</li> <li>• Supply Side Policies</li> <li>• Factors of Production</li> <li>• Protectionism</li> <li>• Fiscal Policy</li> <li>• Globalisation</li> </ul>
English Literature	<p style="text-align: center;"><b>Paper 3</b> <b>Part A – Post 2000 Poems</b> 1 hour 15 minutes</p> <p style="text-align: center;"><b>Paper 3</b> <b>Part B – Rossetti</b> 60 minutes</p>	<p><b>You need to revise:</b></p> <ul style="list-style-type: none"> <li>• Effects</li> <li>• A Minor Role</li> <li>• On Her Blindness</li> <li>• To My Nine Year Old Self</li> <li>• Ode on a Grayson Perry Urn</li> <li>• The Deliverer</li> <li>• History</li> <li>• Journal of a Disappointed Man</li> <li>• Giuseppe</li> </ul> <p><i>There will be <b>a choice</b> of two questions each comparing one of your anthology poems to an unseen poem.</i></p> <p><b>You need to revise:</b></p> <ul style="list-style-type: none"> <li>• Babylon the Great</li> <li>• Twice</li> <li>• Maude Clare</li> <li>• An Apple-Gathering</li> <li>• Remember</li> <li>• At Home</li> <li>• The World</li> <li>• Goblin Market</li> </ul> <p><i>There will be <b>a choice</b> of two questions each comparing a named Rossetti poem to a Rossetti poem of your choice.</i></p>

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<b>Further Maths</b>	<p><b>Paper 1</b> 90 minutes Further Pure</p> <p><b>Paper 2</b> 1 hour 15 minutes Further Mechanics</p>	<p><b>Pure Content:</b> Complex Numbers, Matrices, Maclaurin Series, Polar Coordinates, Further Calculus, Hyperbolic Functions, Applications of Integration.</p> <p><b>Mechanics Content:</b> Moments, Work Energy &amp; Power, Impulse &amp; Momentum, Centre of Mass</p>
<b>Geography</b>	<p><b>Paper 1</b> 1 hour 30 minutes Physical Geography</p> <p><b>Paper 2</b> 1 hour 30 minutes Human Geography</p> <p>Exam Board AQA</p>	<p><b>Paper 1: Physical Geography</b> Coastal Systems and Landscapes</p> <ul style="list-style-type: none"> <li>• Coasts as natural systems</li> <li>• Systems and processes</li> <li>• Coastal landscape development</li> <li>• Coastal management</li> <li>• Local scale case study (Dorset)</li> <li>• Contrasting case study outside the UK (Odisha)</li> </ul> <p>Hazards</p> <ul style="list-style-type: none"> <li>• The concept of hazards in a geographical context</li> <li>• Plate tectonics</li> <li>• Volcanic hazards</li> <li>• Seismic hazards</li> <li>• Storm hazards</li> <li>• Fires in nature</li> <li>• Multi hazardous case study (Haiti)</li> <li>• Local scale hazards setting (Cockermouth in Cumbria).</li> </ul> <p><b>Paper 1: Human Geography</b> Contemporary Urban Environments</p> <ul style="list-style-type: none"> <li>• Urbanisation</li> <li>• Urban Forms</li> <li>• Social and economic issues associated with urbanisation</li> <li>• Urban climate</li> <li>• Urban drainage</li> <li>• Urban waste and its disposal</li> <li>• Other contemporary urban environmental issues</li> <li>• Sustainable urban development</li> </ul> <p>Changing Places</p> <ul style="list-style-type: none"> <li>• The nature and importance of places</li> <li>• Changing places – relationships, connections, meaning and representation</li> <li>• Relationships and connections (changing demographic and cultural characteristics/ economic change and social inequalities)</li> <li>• Meaning and representation</li> <li>• Place studies (near and far)</li> </ul>
<b>History</b>	<p>Two 90 minute exams</p> <p>Each exam will contain a choice of 3 questions; you must answer two.</p> <p><b>Plus:</b> Two 1 hour exams sat in Study Session next half term.</p> <p>One will be extracts and the other will be sources.</p>	<p><b>Paper 1K: The Making of a Superpower 1865-1975</b></p> <ul style="list-style-type: none"> <li>• <b>US economy 1865-1900</b></li> <li>• Immigration and tensions in society 1890-1920</li> <li>• Populism and Progressivism 1890-1920</li> <li>• Foreign Policy in the USA after 1890</li> </ul> <p><b>Paper 2S: The Making of Modern Britain</b></p> <ul style="list-style-type: none"> <li>• The Affluent Society, 1951-1964</li> <li>• The Sixties, 1964-1970</li> <li>• The end of the Post War Consensus, 1970-1979</li> <li>• The Thatcher Years, 1979-1990 (for the source assessment)</li> </ul>

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Law	<p><b>Paper 1</b> 90 minutes English Legal System and Criminal Law</p> <p><b>Paper 2</b> 90 minutes Law Making and Tort Law</p>	<p><b>Legal System Topics</b></p> <ul style="list-style-type: none"> <li>• Civil Courts and ADR</li> <li>• Criminal Courts</li> <li>• Legal Personnel</li> <li>• Access to Justice</li> </ul> <p><b>Criminal Law Topics</b></p> <ul style="list-style-type: none"> <li>• Elements of a Crime</li> <li>• Fatal Offences</li> <li>• Non-fatal offences inc evaluation</li> <li>• Property Offences</li> <li>• General defences inc evaluation</li> <li>• Mental Capacity Defences inc evaluation</li> </ul> <p><b>Law Making</b></p> <ul style="list-style-type: none"> <li>• Legislative Process</li> <li>• Delegated Legislation</li> <li>• Statutory Interpretation</li> <li>• Judicial Precedent</li> <li>• Law Reform</li> <li>• EU Law</li> </ul> <p><b>Tort Law</b></p> <ul style="list-style-type: none"> <li>• Negligence inc evaluation</li> <li>• Occupiers Liability inc evaluation</li> <li>• Private Nuisance</li> <li>• Rylands v Fletcher</li> <li>• Vicarious Liability inc evaluation</li> </ul>
Mathematics	<p><b>Paper 1</b> 90 minutes Pure and Mechanics</p> <p><b>Paper 2</b> 90 minutes Pure and Statistics</p>	<p><b>Pure Content</b> Trigonometry (including functions and identities), Functions, Differentiation, Partial Fractions, Parametric Equations</p> <p><b>Mechanics Content</b> Projectile Motion, Vectors</p> <p><b>Statistics Content</b> Conditional Probability Y12 content may also be assessed as pre-requisite content.</p>
Media Studies	<p><b>Paper 1</b> 1 hour 30 minutes condensed Component 1 paper</p> <p><b>Paper 2</b> 1 hour 15 minutes Component 2 paper</p>	<p><b>Paper 1</b> The paper will take the form of a condensed Component 1 paper with questions on Representation (30-mark comparison), Media Industries and Media Audiences. There will be no audio-visual element on this mock.</p> <p>Students need to revise the following set texts:</p> <ul style="list-style-type: none"> <li>• Newspapers (Guardian and Mirror)</li> <li>• Film marketing (Kiss of the Vampire)</li> <li>• Advertising (Tide &amp; Super.human)</li> <li>• Film industry (IDB and Black Panther)</li> <li>• Video game (Assassin's Creed)</li> <li>• Radio (George's Podcast)</li> </ul> <p>Students should also revise all set theories across Media Language, Representation, Audiences, and Media Industries</p> <p><b>Paper 2</b> A half Component 2 paper: 30 mark comparison question on magazines (Vogue and Big Issue) 15 mark question on Zoella</p>

<p><b>PE</b></p>	<p><b>Paper 1</b> 1 hour 30 minutes Includes a 20mark question</p>	<p><b>Paper 1</b> <b>Anatomy and Exercise Physiology</b></p> <ul style="list-style-type: none"> <li>• Diet Components</li> <li>• Factors Affecting Flexibility</li> <li>• Factors Affecting Horizontal Distance</li> <li>• Mechanics of breathing</li> <li>• Energy – Aerobic System, ATP PC, Recovery</li> <li>• Aerobic Capacity – Training Methods, Adaptations</li> <li>• Strength – Types of strength</li> <li>• Lifestyle Diseases</li> <li>• Sports Injuries – Chronic injury, cause, treatment</li> <li>• Calculations: Displacement, average velocity, average speed</li> <li>• Stability</li> <li>• Angular Motion</li> <li>• Flight Paths – Topspin</li> <li>• Definitions – HR, SV,Q,VS,VR</li> <li>• VCC – Vascular Shunt</li> <li>• Levers – differences between 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> class leavers</li> </ul> <p><b>Paper 2</b> <b>Skill Aquisition</b></p> <ul style="list-style-type: none"> <li>• Classification of Skills</li> <li>• Types and methods of practice</li> <li>• Transfer of Skills</li> <li>• Principles and theories of learning movement skills</li> <li>• Stages of Learning</li> <li>• Guidance</li> <li>• Feedback</li> <li>• Memory Models</li> </ul> <p><b>Sports Psychology</b></p> <ul style="list-style-type: none"> <li>• Individual differences</li> <li>• Group and team dynamics</li> <li>• Goal setting in Sport</li> <li>• Attribution</li> </ul> <p><b>Paper 3</b> <b>Emergence and evolution of sport (Pre-industrial, post 1850, 20<sup>th</sup> &amp; 21<sup>st</sup> Century)</b></p> <ul style="list-style-type: none"> <li>• Social class</li> <li>• Gender</li> <li>• Law &amp; Order</li> <li>• Education</li> <li>• Time</li> <li>• Money</li> <li>• Transport</li> </ul> <p><b>Global sporting events</b></p> <ul style="list-style-type: none"> <li>• Olympic Games</li> <li>• Positives and Negatives-</li> <li>• Sporting/Social/Economical/Political</li> </ul> <p><b>Ethics and Deviance</b></p> <ul style="list-style-type: none"> <li>• Drugs</li> <li>• Violence</li> <li>• Gambling</li> </ul> <p><b>Commercialisation and the media</b></p> <ul style="list-style-type: none"> <li>• Factors leading to commercialisation</li> </ul>
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		<ul style="list-style-type: none"> <li>• Positive and negative impacts</li> <li>• Coverage of sport by the media</li> <li>• Positive and negative effects of the media on sport</li> <li>• Relationship between sport and the media</li> </ul>
Physics	<p><b>Paper 1</b> Written exam 1 hour 30 minutes</p> <p>50 marks of short and long answer questions and 20 multiple choice questions</p> <p><b>Paper 2</b> Written exam 1 hour 30 minutes 50 marks of short and long answer questions and 20 multiple choice questions</p>	<p><b>Paper 1</b></p> <ul style="list-style-type: none"> <li>• Particles Physics</li> <li>• Waves – Light</li> <li>• Mechanics</li> <li>• Electricity</li> <li>• SHM</li> <li>• Multiple Choice Questions from a mixture of paper 1 topics</li> </ul> <p><b>Paper 2</b></p> <ul style="list-style-type: none"> <li>• Gravitational Fields</li> <li>• Capacitors</li> <li>• Thermal Physics</li> <li>• Electric Fields</li> <li>• Practical Skills (including error calculations)</li> <li>• Multiple Choice questions from a mixture of the above topics</li> </ul>
Psychology	<p>Paper 1 1 hour 30 minutes 70 marks</p> <p>Paper 2 1 hour 15 minutes 54 marks</p> <p>Must bring calculators to both papers</p>	<p><b>Paper 1 – Foundations of Psychology</b></p> <ul style="list-style-type: none"> <li>• Social</li> <li>• Cognitive</li> <li>• Biopsychology</li> <li>• Learning Theories</li> </ul> <p><b>Paper 2 – Applications of Psychology</b> Clinical Psychology</p> <p>Checklists have been given to all students</p>
Religious Studies Philosophy & Ethics	<p><b>Paper 2</b> 1 hour 30 minutes</p> <p>70 marks</p>	<p><b>Philosophy Theme 2: Challenges to Religious Belief</b></p> <ul style="list-style-type: none"> <li>D. Religion as a product of the human mind: Freud</li> <li>E. Religion as a product of the human mind: Jung</li> <li>F. Issues relating to rejection of religion: Atheism</li> </ul> <p><b>Philosophy Theme 3: Religious Experience</b></p> <ul style="list-style-type: none"> <li>A. The Nature of Religious Experience</li> <li>B. Mystical Experience</li> <li>C. Challenges to the Objectivity and Authenticity of Religious Experience</li> <li>D. Influence of Religious Experience on Religious Practice and Faith</li> <li>E. The Definitions of Miracles</li> <li>F. Comparative Study of 2 key Scholars on the Possibility of Miracles</li> </ul> <p><b>Christianity Theme 3: Significant Social and Historical Developments</b></p> <ul style="list-style-type: none"> <li>A. Attitudes towards wealth</li> <li>B. Migration and Christianity in the UK</li> <li>C. Feminist theology and the changing role of men and women</li> </ul>
Sociology	<p><b>Paper 1</b> 1 hour 30 minutes</p> <p><b>Paper 2</b> 1 hour 30 minutes</p>	<p><b>Paper 1 – Education with Research Methods in Context</b></p> <p><b>Paper 2 – Crime and Deviance</b></p> <p>Checklists have been given to all students</p>