



HECKMONDWIKE
GRAMMAR SIXTH FORM

A-Level Revision Topics

Biology

Topic	Title	Further Details
1	Units 1 & 2	Core principles
2	Unit 2	Sexual reproduction in plants
3	Unit 4	Exchange and transport
4	Unit 3	Principles of classification
5	Unit 6	Controlling the spread of infectious disease
6	Unit 9	The Nervous System to include synaptic transmission, detection of light by mammals and control of heart rate in mammals.
7	Unit 8	Inheritance (principles of Mendelian inheritance, pedigrees, genetic crosses etc.)
8	Unit 8	Population Genetics (including Hardy Weinberg)
9	-	Maths and investigation skills (not core practical's)
10	Unit 5	Photosynthesis
11	Unit 6	Aseptic techniques

Business Studies

Topic	Title	Further Details
1	3.3 Decision making to improve marketing performance	Boston matrix
2	3.4 Decision making to improve operational performance	Capacity utilisation (3.4.2), Increasing efficiency and productivity (3.4.3)
3	3.5 Decision making to improve financial performance	Types of profit (3.5.1)
4	3.6 Decision making to improve human resource performance	Motivation theories (3.6.4), HR planning
5	3.7 Analysing the strategic position of a business	Balance sheet(3.7.2), investment appraisal, sensitivity analysis (3.7.8); Carroll's CSR model (3.7.6); External Economic change and business functions (3.7.5)
6	3.8 Choosing strategic direction	Porter's strategic positioning model;
7	3.9 Strategic methods: how to pursue strategies	Greiner; innovation; data mining;
8	3.10 Managing strategic change	Organisational culture; strategic drift
The exam is synoptic; some questions may mix topics		16 marker essays - investment appraisal and motivational theorist
Skills: MCQs: Data response; Essays		25 marker essays - innovation and organisational culture

Chemistry

Topic	Title	Further Details
1	Physical Chemistry	Oxidation, reduction and redox reactions (3.1.7), Thermodynamics (3.1.8), Kinetics and Rate equations (3.1.5/3.1.9) and Equilibria, Le Chatelier's principle, K _c and K _p (3.1.6 and 3.1.10) and Acids and Bases (3.1.12)
2	Inorganic Chemistry	Group 7 (3.2.3) and Transition Metals (3.2.5) NB redox titrations will not be assessed
3	Organic Chemistry	Optical isomerism 3.3.7 through to Chromatography 3.3.16 i.e. all A-Level Organic Chemistry

The paper is synoptic with the areas above being the key areas of focus. Relevant practical skills may be assessed in the sections listed above. Paper may include short, long answer and multiple-choice questions.

Computer Science

Topic	Title	Further Details
1	Fundamentals of programming (approx. 14%)	Recursion, Object-oriented programming
2	Fundamentals of data structures (approx. 7%)	Graphs, trees, hash tables, dictionaries
3	Fundamentals of algorithms (approx. 10%)	Graph/Tree traversal, Reverse Polish notation
4	Theory of computation (approx. 10%)	Problem solving, Regular languages (FSM/Regular expressions/BNF), Limits of computation, Turing machines
5	Fundamentals of data representation (approx. 10%)	Binary number system (Signed using two's complement, unsigned, Floating point, fractions)
6	Fundamentals of computer systems (approx. 13%)	Classification of programming languages, Logic gates and Boolean expressions (including Boolean algebra)
7	Fundamentals of computer organisation and architecture (approx. 8%)	Fetch-Execute cycle, machine-code / assembly languages
8	Consequences of uses of computing (approx. 5%)	awareness of current individual (moral), social (ethical), legal and cultural opportunities and risks of computing.
9	Fundamentals of communication and networking (approx 8%)	Network topology, TCP/IP, client server model (including CRUD and REST)
10	Fundamentals of databases (approx 15%)	E-R modelling, database design, SQL (including DDL)

Design Technology

Topic	Title	Further Details
1	Identifying Requirements	Pg 1 - 22 Economic Considerations/ Market Research (Including Primary and Secondary)/ Stakeholder Analysis/ usability Ergonomics/ Anthropometrics
2	Learning from Existing Products	Product Lifecycle - P57
3	Implications of wider Issues	Pg 76 - 77 Energy - Fossil Fuels and Renewables
4	Material and Component Considerations	Pg 131 - 202 Material Selection (Functional Performance/ Aesthetics/ Cost and availability)/ Material Properties (Mechanical Properties/ Physical Properties/ Chemical Properties/ Manufacturing Properties/ Material Selection Charts)/ Properties of Timbers (Hardwoods/ Softwoods/ Manufactured Boards)/ Metals (Ferrous/ Non-Ferrous/ Non Ferrous Alloys i.e. Aluminium Alloy)/ Polymers (Thermoplastics/ Thermosetting)/ Textiles (Ripstop Nylon/ PVC)/ Smart Materials/ Composites (including manufacture)
5	Technical Considerations	Pg 203 - 271 Reinforcing to fulfil structural integrity/ Surface Finishes and Coatings (Paint/ Varnish/ Powdercoating/Dip Coating/ Electroplating/ Galvanising)/ Smart Materials/ Motion (including levers)
6	Manufacturing Processes and Techniques	Pg. 272 - 358 Casting/ Subtractive Techniques/ Addition Processes/ Knock Down Fittings/ Standard Components/ Deformation and Reforming Processes/ CAD/CAM/ Polymer Moulding/ Metal Casting/ Jigs and Fixtures/ Scales of Production (One Off/ Batch/ High Volume - Continuous and Repetitive Flow)/ Modular or Cell Production Systems, Lean Manufacture, Just In Time Manufacture/ Impact of ICT and Digital Technologies

Drama & Theatre

Topic	Title	Further Details
1	Section A Live Theatre	You need to: Rewatch AMC (particularly key moments), Ensure your live theatre notes are complete to take into the assessment, Revise Exemplars, Revise Writing Structures (see Teams)
2	Section B Performer	You need to: Re-read Colder Than Here, Revise Character Profiles, Revise writing structures for Section B Performer responses, Annotate extract to take in, See Exemplars
3	Section B Designer	You need to: Re-read Colder Than Here, Revise the Lighting and Set Design Concepts thoroughly; both the overall concept and for the specific extract, Annotate extract (same extract as Performer Q), Revise writing structures for Section B Designer responses, See Exemplars

Economics

Topic	Title	Further Details
1	Theme 1: Introduction to markets and market failure	Demand, supply; d&s diagrams; subsidy (1.2.2; 1.2.3; 1.2.4; 1.2.6)
2	Theme 2: The UK economy – performance and policies	Measures of economic performance (2.1), AD (2.2), AS (2.3), multiplier (2.4.4) output gaps (2.5.2), fiscal policy (2.6.1), economic growth (2.6.2)
3	Theme 3: Business behaviour and the labour market	Monopoly market structure (3.4.5) Government intervention (3.6.1 d)
4	Theme 4: A global perspective	Factors influencing growth & development (4.3.2), Strategies influencing growth & development (4.3.3 b/d), Inequality (4.2.2)
This is a synoptic paper that covers content from all four Themes in A level Economics		Data response longer answers (essays) will cover nationalisation, natural monopoly and price discrimination
Section A SAQs; B Data response; C Essay choice		Long essays (25 marks) will cover fiscal policy, growth and inequalities

English Language

Topic	Title	Further Details
1	Paper 1: Meaning and Representation (Q1 & 2)	You will need to practise analytic essay writing and ensure you can meet AO1 (language analysis, terminology and written expression) and AO3 (analyse and evaluate how contextual factors and language features link to the construction of meaning) . This will require you to demonstrate your ability to apply different levels of language analysis, as laid out in the AQA Glossary you have been given and directed to - phonology, lexis and semantics, grammar, pragmatics, discourse and graphology. Mr. Lee will direct you towards appropriate non-fiction texts and articles that you can read and annotate for this section.
2	Paper 2: Language Discourse (Q3)	You will need to practise discursive essay writing and ensure you can meet the AOs: AO1 (language analysis, terminology and written expression), AO3 (Analyse and evaluate contextual factors) and AO4 (explore connections across texts). Topics to revise include: language and technology; language and age; and ideas about language being in decline.

English Literature

Topic	Title	Further Details
1	Othello	Extract based question. Revise the play, plus context, critical views and AO4 links as well as how to write a good answer
2	Handmaid's Tale	Comparative question. Revise the novel plus context, critical views and AO4 links (between the novel and the poems as well as any other links to other literature). Also revise how to write a good answer.
3	Feminine Gospels	Comparative question. Revise the novel plus context, critical views and AO4 links (between the novel and the poems as well as any other links to other literature). Also revise how to write a good answer.

French

Topic	Title	Further Details
1	Un Sac de billes	Revise themes, symbolism and characters
2	Un Long Dimanche de Fiançailles	Revise themes, symbolism and characters
3	IRP	Introduction and headings. Make sure you know key vocabulary that you are likely to need to discuss your research
4	Topics for listening and reading	The right to vote, cyber-society, diverse society,immigration

Geography

Topic	Title	Further Details
1	Globalisation	Analysis 6 mark question
2	CUE	Physical factors and Urban form
3	Changing places	Perceptions and place meaning
4	Carbon and water	Water flows and Carbon mitigation
5	Glacial landscapes and landforms	Fluvio glacial processes
6	Hazards	Tropical storms and volcanic mitigation and wildfires

History

Topic	Title	Further Details
1	Britain	Students will answer 1 question from a choice of 2. There will be one question available from Theme 1 on political, and one question from Theme 2 religion.
2	USA Breadth	Students will answer 1 question from a choice of 2. There will be one question available on patterns of migration, and one question from the media unit.
3	USA Depth	This will be a compulsory sources question on the New Deal element of the depth study.
4	Russia	This will not be assessed in the assessment but in the coursework.

Maths

Topic	Title	Further Details
1	Algebra and Functions	* Indices and Surds * Equations and Inequalities * Polynomials * Binomial Expansion and Series * Partial Fractions * Function Notation * Sequences and Series * Exponentials and Logarithms * Proof (but not by contradiction)
2	Graphs	* Graphs of various functions * Transformations * Coordinate Geometry
3	Calculus	* Differentiation * Integration including Numerical Integration * Parametric Equations * Differential Equations
4	Trigonometry	* Trigonometric functions including reciprocal trig. functions * Graphs and identities * Use of degrees and radians * Compound and double angle formulae * Small angle approximations
5	Mechanics	* Kinematics * Forces and Newton's laws of motion * Variable acceleration * Moments * Projectiles

Please note that the exam is synoptic, but some questions may include more than one topic. The test will consist of a mix of question styles, from short, single-mark questions to multi-step problems.

Further Maths

Topic	Title	Further Details
1	Algebra	* Proof by Induction * Roots of quadratic, cubic and quartic equations * Standard formula for sums of series * Method of Differences
2	Complex Numbers	* Argand Diagrams * De Moivre's * Different forms of complex numbers * Roots of unity
3	Matrices and Vectors	* Operations with matrices * Transformations * Invariant lines * Inverse Matrices * Factorising Determinants * Eigenvalues and Eigenvectors * Diagonalisation of Matrices * Equations of lines and planes in vector form * Scalar and Cross Product * Distance between lines and planes
4	Functions	* Maclaurin Series * Rational functions * Oblique asymptotes * Conics * Polar Graphs * Hyperbolics
5	Calculus	* Volumes of Revolution * Differentiate Inverse Trig functions * Reduction formulae for integration * Hyperbolics * Differential Equations * Numerical Methods

Please note that the exam is synoptic, but some questions may include more than one topic. The test will consist of a mix of question styles, from short, single-mark questions to multi-step problems.

Music

Topic	Title	Further Details
1	Set Works - Deep Focus	Revise these 6 set work in detail in preparation for the extended essay choice - Herrmann Psycho, Stravinsky Rite of Spring, Beatles Revolver, Vaughan Williams On Wenlock Edge, Debussy Estampes, Clara Schumann Piano Trio.
2	Set Works - General listening	Revise these 6 set works in preparation for the general listening questions - Bach Cantata, Berlioz Symphonie Fantastique, Danny Elfman Batman Returns, Kate Bush Hounds of Love, Anoushka Shankar Breathing Under Water, Kaija Saariaho Petals
3	Areas of Study	Revise the key features of these 3 areas of study in preparation for the unfamiliar essay - Instrumental Music, Film Music, Popular Music
4	Dictation Practice	Practise your dictation skills in preparation for the dictation question.

PE

Topic	Title	Further Details
1	Socio cultural issues in physical activity and sport	Emergence and evolution of modern sport. Global sporting events. Ethics and deviance in sport. Commercialisation and media. Routes to sporting excellence in the UK.
2	Skill acquisition / Sports psychology	Classification of skill, Methods and types of practice, Feedback, Learning theories, Memory models, Arousal, Attribution theory, Aggression, Personality, Goal setting, Sports confidence and self-efficacy.
3	Anatomy / Exercise physiology / Biomechanics	Skeletal and muscular systems. Cardiovascular and respiratory systems. Energy for exercise. Environmental effects on body systems. Exercise at altitude. Training methods - Aerobic training. Strength training. Biomechanics - Linear and angular motion. Projectile motion.

Physics

Topic	Title	Further Details
1	Module 3	3.1 Motion, 3.5 Newton's Laws of Motion and Momentum
2	Module 4	4.4 Waves
3	Module 5	5.1 Thermal Physics
4	Module 6	6.3 Electromagnetism
5	Practical 1	5.1.3 d (ii) techniques and procedures used for an electrical method to determine the specific latent heat of a solid and a liquid.
6	Practical 2	4.5.1 e (ii) Determine the Planck constant using different coloured LEDs., 4.5.3 Wave-particle duality

Politics

Topic	Title	Further Details
1	UK Politics and a Comparative UK & USA	3 small mark questions relating to Paper 1 & Paper 2
2	Comparative USA & UK	Comparative USA & UK. A choice of 2 essays one on Government and one on Politics.
3	Political Ideology	One extract essay question on Liberalism

Psychology

Topic	Title	Further Details
1	Research methods	Paper 2. Also 25% of overall course. Total 16 marks. All questions compulsory. Synoptic. Year one only research methods.
2	Agression	Paper 3 Total 16 marks. All questions compulsory.
3	Schizophrenia	Paper 3 Total 16 marks. All questions compulsory.
4	Psychopathology	Paper 1 Total 16 marks. All questions compulsory.
5	Biopsychology	Paper 2 Total 16 marks. All questions compulsory.
6	Social Influence	Paper 1 Total 16 marks. All questions compulsory.

RE

Topic	Title	Further Details
1	Islam	Religious Figures and Sacred Texts; Religious Concepts and Religious Life; Significant Social and Historical Developments in Religious Thought; Religious Practices that Shape Religious Identity
2	Philosophy of Religion	Arguments for the Existence of God; Challenges to Religious Belief; Religious Language
3	Ethics	Ethical Thought; Deontological Ethics; Teleological Ethics; Determinism and Free Will

Sociology

Topic	Title	Further Details
1	Beliefs	Paper 2 topic. 2 compulsory question that relates to the topic that covers half of the year 13 content.
2	Education	Paper 1 compulsory extract question. This topic covers half of Yr12.
3	Crime and Deviance and the Family	Students can choose between these 2 topics. Family (Paper 2) Crime & Deviance (Paper 3)
4	Crime and Deviance	Compulsory 30 extended essay item question. Synoptic paper that incorporates Research Methods (yr 12 & 13) Crime and Deviance covers approximately half of the content of yr13.

Spanish

Topic	Title	Further Details
1	La casa de Bernarda Alba	Revise themes, symbolism and characters
2	Volver	Revise themes, symbolism and characters
3	IRP	Introduction and headings. Make sure you know key vocabulary that you are likely to need to discuss your research
4	Topics for listening and reading	influencia de los ídolos, la igualdad de los sexos, valores, dictaduras, inmigración, jóvenes de hoy, convivencia