



Rewarding Learning

**ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2011**

History of Art

Assessment Unit AS 2

assessing

Module 2: Architecture, Craft and Design

[AD121]

FRIDAY 10 JUNE, AFTERNOON

MARK SCHEME

AS Generic Mark Scheme

Assessment Criteria	Level 1 0–12 marks	Level 2 13–24 marks	Level 3 25–36 marks	Level 4 37–48 marks	Level 5 49–60 marks
Knowledge Source, select, recall material to demonstrate knowledge effectively (AO1).	Insufficient knowledge. Recall lacking scope, depth, relevance and/or accuracy.	Limited knowledge. Recall problematic in scope, depth, relevance and/or accuracy.	Satisfactory knowledge. Recall mostly satisfactory in scope, depth, relevance and accuracy.	Good knowledge. Recall extensive, relevant and accurate, with minor lapses.	Excellent knowledge. Recall extensive, relevant and accurate.
Understanding Demonstrate understanding through analysis and make substantiated judgements and sustained discussion and/or arguments (AO2).	Insufficient understanding. Any relevant analysis, judgements, discussion and arguments unsubstantiated and/or unsustainable.	Limited understanding. Any relevant analysis, judgements, discussion and arguments problematic.	Satisfactory understanding. Analysis, judgements, discussion and/or arguments mostly relevant and satisfactorily substantiated.	Good understanding. Analysis, judgements, discussion and/or arguments relevant, substantiated and sustained, with minor lapses.	Excellent understanding. Relevant and fully substantiated and sustained analysis, judgements, discussion and/or arguments.
Communication Present a clear and coherent response (AO3), addressing Quality of Written Communication requirements.	Insufficient communication. Unclear, incoherent and/or non-extensive, with inaccurate spelling, punctuation and/or grammar, and/or inappropriate vocabulary and/or form/style of writing.	Limited communication. Clarity, coherence, extensiveness, spelling, punctuation, grammar, vocabulary and/or form/style of writing problematic.	Satisfactory communication. Clarity, coherence, extensiveness, spelling, punctuation, grammar, vocabulary and form/style of writing mostly satisfactory.	Good communication. Clear, coherent and extensive, with accurate spelling, punctuation and grammar, and appropriate vocabulary and form/style of writing, with minor lapses.	Excellent communication. Clear, coherent and extensive, with accurate spelling, punctuation and grammar, and appropriate vocabulary and form/style of writing.
Marks available for each AC	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20

Throughout this mark scheme:

- *insufficient* – clear that minimum required standard for an AS pass has not been achieved.
- *limited* and *problematic* – unclear that minimum required standard for an AS pass has been achieved.

AS 2 Mark Scheme

Candidates' demonstrated knowledge and understanding of the indicative content will be assessed against the assessment criteria and performance descriptors within the AS Generic Mark Scheme above.

For each question, candidates must demonstrate some knowledge and understanding of the relevant "immediate context" – within their historical contexts, closely associated artistic styles, themes, centres, movements and/or practitioners, as identified within the particular subject content section. "Immediate contexts" shown below reproduce in full content descriptions directly relating to the questions, with the less relevant contextual content shown in summary form. The major part of each answer should not be contextual but, rather, drawn from the subject content to directly address the question.

Principal practitioners and works relevant to the examination question should be dated on first mention. Basic biographies should be provided for these principal practitioners. (To assist examiners, biographical information within the Mark Scheme may occasionally be extensive – more than expected of a "basic biography" in any single candidate's answer.)

For archiving purposes each question is given a six-digit reference, the first three digits identifying the year (09, 10...) and examination series (1, January; 2, May–June), and the second three the unit (1–4) and section number (01–10).

AS 2 Section 1 – Greek architecture

112.201: Give an account of Greek architects' use of mathematics, geometry and/or optical refinements, referring to appropriate practitioners and works, and discuss briefly what you think this tells us about the Greeks.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **Materials and methods** From timber to limestone and marble; adherence to trabeated (post-and-lintel) system; structural and optical refinements; use of mathematics and geometry; significance.
and in summary
 - Classical orders, Religious, Civic.
- Identification of practitioners and works, and descriptions of works:
 - Ictinus (Ikkinus) and Callicrates (Kallikrates).
 - Parthenon, Acropolis, Athens, 448–432 BC. Commissioned by Pericles; architecture and sculpture overseen by Phidias; Pentelic marble used throughout; Doric peristyle of 8×17 columns (overall measurements 33.5×72.2 m/ 110×237 ft) with Ionic sculpted frieze high on outside of the cella walls; portico at each end, two columns deep; the cella divided into two rooms, the smaller, to the west, the *parthenon* or treasury; the main room or naos, opening to the east, housed Phidias's chryselephantine (gold and ivory over wooden core) statue of Athena, some 12 m/40 ft tall; other sculpture in the two pediments and ninety-two metopes.
 - Mnesicles(?).
 - Erechtheum, Acropolis, Athens, 421–405 BC. Small, venerable, uniquely complex Ionic temple; dedicated to Erechtheus, Poseidon and Athena; irregular layout and levels, with three differently sized Ionic colonnades (site slopes from north to south and from east to west); caryatid porch (flat roof supported by six columns in the form of maidens) to the south, facing the Parthenon; finely decorated friezes and capitals.
 - Architect(s) unknown.
 - Choragic Monument of Lysicrates, Athens, 335–334 BC. Monument erected by the *choregos* (patron of theatrical performances) Lysicrates to display a bronze tripod won by him for sponsoring a chorus at the Theatre of Dionysus. One of the earliest surviving examples of the Corinthian order used on a building's exterior. The tall square base supports a hollow circular structure (without access), with six engaged Corinthian columns, and topped by an acanthus finial.
 - Structural and optical refinements:
 - Orders: the three major Greek building styles governing detail of column, capital and entablature and their constituent parts.
 - Entasis: slight convex swelling given to columns, thought to offset the natural illusion of concavity and/or weakness produced if perfectly straight-sided.
 - Slight convex curve given to stylobate and entablature, thought to offset the natural illusion of sagging produced if perfectly horizontal (and also to allow for rainwater run-off).
 - Inclination of columns: subtle inclination of columns towards central axis of building, thought to enhance sense of structural coherence.
 - Spaces between columns at the corners slightly reduced, thought to enhance sense of structural solidity and coherence.

- Use of mathematics and geometry:
 - The Parthenon in Athens (built by Callicrates and Ictinus, 448–432 BC), with its 8×17 peripteral columns exemplifies the $2n+1$ ratio typical of Greek temple design.
 - Various proportioning systems have been proposed for Greek temple design, including, for the Parthenon, ones based on a 0.89 m module, the 4:9 ratio and/or the Golden Section.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - Structural and optical refinements:
 - Pursuit of perfectionism, ultimate refinement, arguably a major national characteristic. Perhaps this is key factor in their choosing to persevere with a temple structure (trabeated/post-and-lintel) essentially primitive and spatially inefficient (compared with arcuated/arch-based structures).
 - Use of mathematics and geometry:
 - In Greek temple design, architectural development is closely integrated with the sculptural. Other aspects of Greek cultural life – such as the philosophical, literary and mathematical – may be similarly related (e.g., the application of mathematics in various proportioning systems proposed for the Parthenon, such as ones based on a 0.89 m module, the 4:9 ratio and/or the Golden Section).
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 2 – Early Renaissance Italian architecture

112.202: Which single work exemplifies for you the very best of technical and/or aesthetic achievement within Early Renaissance Italian architecture? Establish contexts and critically appraise the work in support of your choice.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **Classical influence and rise of Humanism** Emergence from Gothic and Byzantine traditions; studying, questioning, challenging; individualism; architect's status rises; enlightened patronage.
 - **Technical and aesthetic developments** Structural engineering innovations; interest in mathematics, geometry, proportion; discovery (or rediscovery?) of perspective and its impact.
 - **Florence as centre** Isolated examples elsewhere; Filippo Brunelleschi, Leon Baptista (Battista) Alberti, Michelozzi Michelozzo (Michelozzo di Bartolommeo), Giovanni Pisano, Bernardo Rossellino.
- Identification of required practitioners and works, and descriptions of works, e.g.:
 - Filippo Brunelleschi (1377–1446). Leading 15th century Florentine goldsmith, sculptor and architect. 1401, lost to Ghiberti competition for north Baptistery doors; thereafter, concentrates on architecture, spending time in Rome studying buildings of antiquity. About 1410–20, (re)discovers linear/scientific perspective; innovative structural and mechanical engineer.
 - Foundling Hospital (Ospedale/Spedale degli Innocenti), designed 1419, built c. 1421–51. Two-storey building with outside loggia/arcade facing onto the newly created Piazza SS. Annunziata. Loggia a series of round arches and small domes supported on delicate, unfluted columns (Composite or Corinthian – authorities differ; Composite essentially) and corbels, set into main hospital wall; an entablature above the arches, and pedimented windows above the entablature.
 - or
 - Florence Cathedral Dome, 1420–36. 1418, Brunelleschi wins the design competition; octagonal pointed arch form with eight principal stone ribs and sixteen secondary ones; the secondary ribs encased in a double-shell of stone in the lower part of the dome and herring-bone brick in the upper. The brick-laying technique derived from Ancient Roman buildings and permitted the dome to be erected without timber centring. Hoists and other special equipment needed also designed by Brunelleschi. 1446–51, lantern added, overseen and possibly partly designed by Michelozzo di Bartolommeo (1396–1472).

UNDERSTANDING

- Analyses/ interpretation/ significance/ appraisal, e.g.:
 - Brunelleschi:
 - Foundling Hospital: example of enlightened social care as well as one of earliest examples of Renaissance urban planning (building opening onto a public square); elegant proportioning based on cube and hemisphere.
 - or
 - Florence Cathedral Dome: largest dome since the Pantheon in Rome, c. 118–125, and the highest to that time; highly innovative and daring engineering solution; resolution involving Ancient Roman, Gothic and Renaissance forms and techniques.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 3 – European architecture Renaissance to Rococo

112.203: The Italian Renaissance influenced French and British architecture in very different ways during the Renaissance to Rococo period. Discuss, establishing contexts and referring to appropriate architects and works.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **France** Armies of Charles VIII of France invade Italy 1494; Italian Renaissance gradually influences French Gothic; rich mix of classical and romantic tendencies; François Mansart (Mansard), Louis Le Vau, Jules Hardouin Mansart (Mansard).
 - **Britain** Reformation; Henry VIII breaks with Rome and establishes Church of England, 1529; period of iconoclasm; resistance to and isolation from Renaissance artistic influences; first colony established in Virginia, N. America, 1607, marking beginning of 300 years of overseas expansion; architectural expression mainly through great country houses; Robert Smythson, Inigo Jones, Christopher Wren, Nicholas Hawksmoor (Hawksmore), John Vanbrugh.
- Identification of required practitioner and works, and descriptions of works, e.g.:
 - France.
 - François Mansart (1598–1666).
 - Château of Maisons (today Maisons-Lafitte), near Paris, 1642–50; free-standing château on moated stone terrace, commissioned by wealthy financier René de Longueuil.
 - Louis Le Vau (1612–70).
 - Château of Vaux-le-Vicomte, Maincy, Melun, c. 1656–61: the most magnificent chateau to that time, built for Nicolas Fouquet, the French Overseer of Finance, later charged with embezzlement. Interiors decorated by Charles Lebrun (1619–90) and others. Extensive formal gardens, incorporating a moat, designed by André Le Nôtre (1613–1700). Double-storey arcaded structure approached through central courtyard, flanked by service buildings. Rectangular hallway leading to octagonal domed saloon opening onto the gardens; a grand apartment either side, one for Fouquet and one for royal visits (Louis XIV).
 - Jules Hardouin Mansart (1646–1708), grandnephew of François Mansart, under whom he trained. Appointed Architect to the King (Louis XIV) 1675. Began redesign and expansion of the Palace of Versailles 1678; thereafter given responsibility for major architectural projects throughout France.
 - Church of the Invalides (or the Dôme of the Invalides), Paris, c. 1676–1706 (belonging to an institution caring for disabled soldiers); Hardouin Mansart appointed to the project in 1676, taking over from Libéral Bruant who had been appointed in 1670; plan based on Greek cross with a circular chapel in each of the four corners; square substructure topped by a tall tambour and slender dome (105 m/344 ft high), with an oculus.
 - Britain.
 - Christopher Wren (1632–1723). Son of the Dean of Windsor; educated in sciences at Oxford; appointed professor of astronomy at Gresham College, London c. 1656; Savilian professor of astronomy at Oxford 1661–73; achieved distinction also in anatomy; earliest architectural work c. 1662–63; commissions largely for church or crown. 1664–65, consulted on refurbishment of the Old St Paul's Cathedral, following which he spent several months in Paris, studying major buildings by François Mansart (1598–1666), Louis Le Vau (1612–70) and others, and briefly

meeting Gianlorenzo Bernini (1598–1680). Following Great Fire of London in 1666, appointed Surveyor General to the Crown 1669; involved in designing 51–52 of the city’s churches, c. 1670–86. Saw himself as effectively having to invent a new tradition of church architecture, writing, “...in our reformed Religion, it should seem vain to make a Parish church larger than that all who are present can both hear and see. The Romanists, indeed, may build larger Churches, it is enough if they hear the murmur of the Mass, and see the Elevation of the Host, but ours are to be fitted for Auditories”.

- Sheldonian Theatre, Oxford, c. 1663–69. Building intended for university ceremonies; exterior derived from Serlio’s reconstruction of D-shaped Theatre of Marcellus, Rome; interior remarkable for using triangulated timber trusses to span 21.3 m/70 ft without ground supports.
- St Paul’s Cathedral, London, 1673–1710. Various designs proposed, including a domed Greek-cross with portico of giant Corinthian columns (Wren’s own preference; the wooden “Great Model”, 1673, still exists), before building began on a Latin-cross design, with a spire over the crossing, and a classical portico – the “Warrant Design”, 1675; Wren made many changes to this design over the course of its construction, including changing the spire to a dome, similar to the one in the Great Model.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - France.
 - François Mansart.
 - Château of Maisons: generally seen as his masterpiece; essentially French classical but with constrained Baroque expression, as perhaps best seen in treatment of the vestibule leading to the grand staircase – classical pilasters surmounted by curvilinear ceiling.
 - Louis Le Vau.
 - Château of Vaux-le-Vicomte: highly influential – used as model for Le Vau’s own redesign and expansion of the Palace of Versailles, 1669.
 - Jules Hardouin Mansart.
 - Church of the Invalides: strongly influenced by Roman Baroque and particularly the plan and dome designed by Michelangelo for St. Peter’s; in turn, Mansart influenced many others well into the 18thC; some of his Palace of Versailles work, such as the Hall of Mirrors, begun 1678, anticipating Rococo.
 - Britain.
 - Wren:
 - Sheldonian Theatre: exemplifies mathematical and scientific understanding allied to innovative, imaginative structural engineering.
 - St Paul’s Cathedral: centralised Greek-cross design of 1673 rejected as impractical, too radical and/or insufficiently Protestant; final building a masterly solution to a demanding brief and impressive synthesis of many stylistic influences; definitive statement of English Protestant Baroque.
 - Italian Renaissance influence.
 - Direct influence on France via Charles VIII’s occupation of Italy in 1494. (Popes were based not in Rome but in Avignon, 1309–77. French-elected “popes”, or “anti-popes”, based at Avignon during “the Great Schism”, 1378–1405.)
 - Britain’s relative geographical isolation from Italy further compounded by the Reformation and, in 1529, Henry VIII’s break with Rome, opening a rift with Italy, France and much of Catholic Europe still apparent by the end of the Rococo period.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 4 – Architecture 1835–1918

112.204: In what ways, if any, do you think nature – or natural/organic forms – influenced architecture 1835–1918? Establish contexts and refer to appropriate movements, architects and works in support of your answer.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **Arts and Crafts Movement** Structural and decorative integration; contribution to ideas of suburb and Garden City; Philip Webb, Charles F. Voysey, Edwin Lutyens.
 - **Art Nouveau** Painting and plant form influences; influence of Viollet-le-Duc’s “structural rationalism”; Antonio (Antoni) Gaudí, Victor Horta, Charles Rennie Mackintosh.
 - **Wiener Werkstätte and Deutscher Werkbund** Innovative practice in Austria and Germany; tension between “arts and crafts” and industrial approaches; Adolf Loos, Josef Hoffmann, Peter Behrens.
 - **Independents** Joseph Paxton, Gustave Eiffel, Dankmar Adler and Louis Sullivan, Frank Lloyd Wright.
- Identification of required movements, practitioners and works, and description of works, e.g.:
 - Philip Webb (1831–1915); architect and designer; close associate of William Morris (1834–96) and one of the founding members of the Arts and Crafts Movement.
 - Red House, Bexley Heath, Kent, 1859–60. Marriage home for Morris and his bride Jane Burden; “L”-shaped plan; red brick construction, left bare; red tile pitched roof, roof-lines varying; doors and windows mostly within pointed arches but varied in shape and size.
 - Antonio Gaudí (1852–1926); son of a coppersmith; based in Barcelona, where almost all of his work is found; a unique style based on organic structures, exuberantly textured and coloured; influenced by nature, religious belief, Catalan independence movement (political and artistic), Moorish design and the architectural theories of Eugène Emmanuel Viollet-le-Duc.
 - Sagrada Familia (variously referred to as a church, cathedral or temple), Barcelona, 1875–ongoing. In 1883–84 Gaudí replaced Francesco del Villar as architect, continuing to work on the church until his death. His predecessor’s modest Neo-Gothic design, with flying buttresses, replaced by a highly complex one, of cathedral proportions, in which the arches, piers and columns are “equilibrated” (self-supporting – tilting, dispensing with the need for internal bracing or external buttressing). Catenary model based on Hooke’s Law (“the arch stands as the loaded chain hangs”, 1660–75; weighted loops of cord/wire/chain suspended from ground-plan set out on a large board and then inverted, each loop corresponding with the size and loading of a particular arch).
 - Victor Horta (1861–1947). Belgian pioneer of Art Nouveau architecture and, in particular, use of iron as both a structural and decorative element within domestic architecture:
 - Hôtel Tassel, Brussels, 1892–93. Four-storey town house of stone, iron and glass; cast-iron used both structurally and decoratively. Façade of centred doorway surmounted by bowed windows on first and second floors, and a bowed balcony on third floor; an exposed cast-iron beam at eaves level; stonework relatively restrained. Large octagonal hall and stairwell; the iron staircase and columns given vegetal forms and these carried through into the floor mosaics and wall decorations.

- Joseph Paxton (1803–1865); gardener and self-taught landscape architect and architect. 1826, appointed Head Gardener at Chatsworth, Derbyshire, by William Spencer, 6th Duke of Devonshire. In this post for 30 years, overseeing the estate, its gardens and exotic plants, and designing buildings and landscape features. During this time also carried out work for numerous private and public authority clients. Built the ‘Great Stove’ conservatory at Chatsworth, 1836–40 (destroyed 1920), the largest glass-house in Europe at the time, using a ridge-and-furrow glazing system (invented by John Loudon in 1817) supported by arched laminated-timber frames. 1850, patented an improved ridge-and-furrow glazing system. 1849–50, designed and constructed a special conservatory for a specimen of the enormous *Victoria Regia* (now *Victoria Amazonica*) lily, achieving the plant’s first flowering in Britain. An illustration of Paxton’s daughter Annie standing on one of the lily’s floating leaves appeared in *The Illustrated London News* in 1849.
 - Crystal Palace, Hyde Park, London, 1850–51; enormous temporary structure (1,848 × 408 × 108 ft/563 × 124 × 33 m) prefabricated from cast iron, wrought iron, glass and timber to accommodate Great Exhibition of 1851; disassembled and re-erected in enlarged form at Sydenham, South London, 1852, where it was destroyed by fire in 1936. Development of his conservatory ridge-and-furrow glazing system but the rib structure of the *Victoria Amazonica* lily also apparently an inspiration.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - Webb.
 - Red House. Unlike symmetrical-façade (Neo)classical buildings, designed essentially from the inside out (form following function), hence partly its modernist significance. Exterior left as unadorned red brick (giving the house its name), a statement of aesthetic principles (“truth to materials”) and (Morris’s) socialist principles at a time when a gentleman’s residence was expected to be finished in fine cut stone, or at least stucco, again referencing the classical. By Victorian standards, much of the interior – such as the staircase – similarly stark. Gothic references combined with vernacular – locally sourced materials (bricks, tiles, timber...) and building methods. Emphasis on traditional fine craftsmanship at odds with modernism.
 - Gaudí.
 - Sagrada Familia. Prime example of Gaudí’s total commitment to his art; fully consistent and coherent throughout. In plan and elevation, eschewing the “Euclidean” geometrical forms (of circles, straight lines and flat surfaces) conventionally used by architects in favour of complex “Non-Euclidean” ones (catenary, hyperboloid, conoid, paraboloid) closer to the organic forms of nature. Arguably “rational” in that large volumes are enclosed with minimal material. Particularly demanding on the craft skills of his masons, as constructed of cut stone rather than, say, poured concrete. Distinctiveness of the architecture accords with Catalan drive for political and cultural independence. The imaginative and “irrational” aspects appealed to Surrealists. Following the decline of International Style Modernism in the 1950s and ’60s, his work influenced the architecture of curved surfaces.
 - Horta.
 - Hôtel Tassel. Innovative use of iron as a structural element in domestic architecture; conspicuously expensive/indulgent; emulation of vegetal forms perhaps expressing a desire to reconnect with nature, and/or the irrational, in an age of rapidly expanding science, technology and urban development.

- Paxton.
 - Crystal Palace. Widely regarded as the most innovative and influential building of the 19th century. Informed by detailed knowledge and understanding of natural forms. Adoption of materials and methods of industry and civil engineering – rather than those of craftsmen, builders and architects. Exploitation of industry and mass production; few elements reproduced in large numbers; prefabrication; unskilled or semi-skilled labour; just-in-time delivery; exploitation of new railway/transport system; rapid assembly and disassembly.
- Any other valid content identified at the standardising meeting to be credited.

AS 2 Section 5 – Architecture 1900–1945

112.205: Which two architects do you consider made the greatest contributions to architecture 1900–1945? Establish contexts and refer to appropriate works in support of your choices.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context
 - **French Avant Garde** Development of reinforced concrete; classical rationalism; the Industrial City; Tony Garnier, Auguste Perret, Le Corbusier.
and/or
 - **De Stijl and Bauhaus** De Stijl: Neo-Plasticism; influences of Cubism and the machine-made; Gerrit Rietveld, Jacobus Johannes Pieter Oud. Bauhaus: functionalism; concrete, steel and glass classicism; Walter Gropius, Ludwig Mies van der Rohe.
and/or
 - **North American** Innovative practice; informed by and reacting to European modernism; Frank Lloyd Wright, Richard Buckminster Fuller.
and/or
 - **Independents** Wells Coates, Alvar Aalto, Berthold Lubetkin.
and in summary
 - French Avant Garde, De Stijl and Bauhaus, North American and/or Independents, as not already covered.
- Identification of required practitioners and works, and descriptions of works, e.g.:
 - Le Corbusier (b. Charles-Édouard Jeanneret, Switzerland, 1887; d. France, 1965); architect, designer, town-planner, artist and writer; the most active Modernist (or International Style) architect in promoting functionalism as a design principle; post-1945 work increasingly sculptural in expression; trained under Josef Hoffmann in Vienna (1905), Auguste Perret in Paris (1908–09) and Peter Behrens in Berlin (1910–11).
 - Domino (or “Dom-ino”) housing system, designed 1914–15; name referencing *domus* (Latin for house), *innovation*, and a *domino* chip, each of the three rectangular reinforced concrete platforms in a Domino house being supported at six points and therefore resembling a chip used in the game of dominoes; reinforced concrete skeleton designed to be infilled with brick, block or rubble walls, plus doors and windows, as owner required.
 - Villa Savoye, Poissy, 1927–31; weekend retreat; severely geometrical flat-roofed concrete dwelling raised off ground on thin columns or pilotis; horizontal strip windows; painted white; no applied decoration.
 - Unité d’habitation, Marseilles, 1945–52; 17-storey block housing about 1,600–1,800 in 23 types of duplex apartments (double-height living areas; single-height kitchen and sleeping areas); reinforced concrete frame, with entire block raised on massive pilotis (columns), and individual apartments “slotting in like bottles in a wine-rack”; on the 7th and 8th storeys a small internal mall – shops, restaurant, hairdresser’s, etc –and on the roof a nursery, kindergarten, outdoors gymnasium, open air theatre and running track.
 - Walter Gropius (1883–1969). Founding director of the Bauhaus and widely recognised as one of the most influential architects of the 20th century. Inspired to enter the profession at least partly by the great medieval cathedrals; studied architecture in Munich and Berlin, 1903–07; worked under Berlin architect and designer Peter Behrens (1868–1940), 1907–10; joined the Deutscher Werkbund, 1910, initially allying himself to Henry van de Velde’s individualistic “arts and crafts” approach but, by 1914, switching to Hermann Muthesius’s functionalist, industry-led one. 1914–18, squalor of WWI and its aftermath (he served as an officer in the trenches) motivation to improve

general living conditions through enlightened architecture and design, and machine production. 1919–28, first director of the Bauhaus. 1934–37, Gropius left Germany for England, working with Maxwell Fry. 1937–52, left for USA to head Harvard Graduate School of Design's Department of Architecture.

- Gropius and Adolf Meyer, Fagus Shoe-last Factory, Alfeld-an-der-Leine, 1911. Inset steel columns supporting reinforced concrete upper floors and flat roof; curtain walls of brick and steel-framed windows.
- Bauhaus Building, Dessau, 1925–26. Building complex comprising workshop wing, accommodation and studio block, teaching wing for Dessau Technical College, a “flyover” administrative section, and a block containing an auditorium, theatre and canteen; constructed of reinforced concrete with curtain walls of steel-framed windows; no applied decoration.
- Gropius House, Lincoln, Massachusetts, 1938. Modernist timber-framed, open-plan house with large ribbon windows, flat roof, plain white undecorated surfaces.
- Frank Lloyd Wright (1867–1959). Leading American independent and proponent of what he himself termed “organic” architecture – distinguishing his approach from that of “hard-edge” modernists such as Gropius, Mies van der Rohe and Le Corbusier, and emphasizing the uniqueness of each client's and each site's requirements. Unusually long, varied and prolific career, extending from “Arts and Crafts” homes, adapted for American mid-west suburbs, through to the highly innovative white spiral form of the Guggenheim Museum in New York, completed six months after his death.
 - Robie House, Chicago, Illinois, 1906–10. Major example of his “Prairie House” design – some 75 or so built by him in the exclusive Oak Park district of Chicago. Compact suburban site; two-storeyed family home of brick, concrete, steel and timber, with low double-pitched tiled roofs and very broad overhanging eaves (enabled by steel beams).
 - Falling Water, Kaufmann House, Bear Run, Pennsylvania, 1935–39. Weekend retreat for wealthy businessman and his family. Sited in a birch forest, directly over a small waterfall, and built of rough-cut local stone and timber plus reinforced concrete, with timber-framed banded windows. Smoothly finished reinforced concrete platforms are cantilevered out from the walls and chimney of rough-cut local stone, and tied in also to the natural rock.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - Le Corbusier. His flat-roofed, reinforced concrete housing structures – as in the three examples below – have been criticised for being: 1/ more suited to a Mediterranean-type climate than more northerly and/or wetter ones; 2/ efficient and cost-effective within western and/or industrialised regions but not so in third world and/or developing regions.
 - Domino housing system. Limitations, as above.
 - Villa Savoye the defining example of Le Corbusier's “5 points of a new architecture” (pilotis, free plan, free façade, strip windows and roof terrace/ garden). Functionalist; idealist and influential but some practical shortcomings (as above) and questionable as to “homeliness” of design approach.
 - Unite d'habitation. Highly influential and reportedly still successful design. However, the many public housing projects directly inspired by it worldwide have been severely criticised in many instances, reasons including: climatic conditions unsuitable (as above); “Brutalist” forms and surfaces widely disliked by tenants and others; the “Brutalist” aesthetic sometimes an excuse for cheap or shoddy design and building practices; the culture of successful apartment living not always embedded or easily nurtured.

and/or

- Gropius.
 - Fagus Shoe-last Factory and Bauhaus Building, Dessau, defining examples of modernist non-domestic architecture; reinforced concrete frame with supporting columns set back from the non-structural “curtain walls” of metal-framed windows; building system allowing rapid and economical construction of large, well lit, open-plan spaces; non-symmetrical; functionalist.
 - Gropius House: Modernist domestic architecture discreetly tempered with New England elements – in use of such as the timber frame and white-painted exterior.

and/or

- Wright.
 - Robie House. Major influences include: Arts and Crafts Movement, traditional American ranch houses, and traditional Japanese wooden architecture. Large central fireplace the hub of the house, surrounded by open-plan living spaces. Attacks notion of architecture as boxes within boxes, hence the large overhanging eaves, providing flow of space between interior and exterior, and windows tending to be floor-to-ceiling or in continuous bands (rather than small “holes” through exterior walls). Specially commissioned thin red bricks and use of concrete capping add emphasis to the horizontal. Longest available steel beams used for eaves overhangs. Air-conditioning, lighting and other detailing all part of the original design.
 - Falling Water. Structurally and aesthetically innovative. As with the Robie House, open-plan for most part and centred on large fireplace. The main living area takes the living rock as its floor, and a small stairway connects directly to the waterfall below. The cantilevered platforms, horizontal banded windows, and flat roofs echo the modernism of Gropius, Mies van der Rohe and Le Corbusier but the use of local materials and the formal coherence achieved between man-made and natural forms (the cantilevered platforms, for instance, echoing the rock formations) are significantly different.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 6 – Three-dimensional craft and design 1850–1918

112.206: Compare and contrast the approaches to three-dimensional craft and design of the Arts and Crafts Movement and Art Nouveau. Establish contexts and refer to appropriate practitioners and works from the years 1850–1918 in support of your answer.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **Arts and Crafts Movement** Led by textile designer William Morris; reaction to industrialism; craft as art; unresolved agonizing on ethics of craft production seeking mass market; sporadically functionalist, traditional materials and techniques; Philip Webb, Charles F. A. Voysey.
 - **Art Nouveau** Fluid lines predominantly; new interior schemes; conspicuous craftsmanship, luxury; application of a decorative motif; Louis Comfort Tiffany, René Lalique, Hector Guimard, Charles Rennie Mackintosh.
- and in summary
 - Shaker, Early industrial design.
- Identification of required practitioners and works, and descriptions of works, e.g.:
 - Philip Webb (1831–1915); architect, designer and founding member of Arts and Crafts Movement.
 - Morris Chair, 1866. Reclining upholstered armchair; arms backwardly extended and drilled with series of holes in which inserted pins/pegs set desired reclining angle.
 - Charles F. A. Voysey (1857–1941).
 - *Tempus Fugit* aluminium and copper clock, c. 1895. Quite plain, simple lines.
 - Louis Comfort Tiffany (b. New York, 1848; d. New York, 1933); decorative artist and designer of textiles, wallpapers, ceramics, glassware, interiors, jewellery and metalwork. Studied painting in New York and Paris before beginning to work in glass in 1873. In 1894 patented “Favrile” glass, which he described as “distinguished by brilliant or deeply toned colours, usually iridescent like the wings of certain American butterflies, the necks of pigeons and peacocks, the wings of various beetles” (<http://www.answers.com/topic/favrile-iridescent-glass>).
 - *Jack-in-the-Pulpit* vase for Tiffany Studios, 1907 (illustrated in Charlotte and Peter Fiell, *Design of the 20th Century*, Taschen, 1999, p. 693). Named after the herbaceous plant native to north eastern USA; narrow smoothly rounded base and long stem culminating in large softly trumpet-like opening. “Favrile” glass, deep blue-green with iridescent shots of colours such as turquoise, emerald and mauve, according to lighting.
 - René Lalique (b. Ay, France, 1860; d. Paris, 1945); glass designer associated with both Art Nouveau and Art Deco. Specialising in perfume bottles, vases, jewellery, chandeliers, clocks and, latterly, car bonnet mascots.
 - *Oiseau de Feu* (Firebird) lamp, c. 1925. Softly cylindrical base of frosted fluted glass; extravagant “stopper” in form of two peacocks.
 - Hector Guimard (b. Lyons, 1867; d. New York, 1942). Widely seen as pre-eminent French Art Nouveau architect and designer.
 - Balcony railing, for the Fonderies de Saint-Dizier, c. 1907–09. Standardised mass-produced cast iron architectural element, both practical and decorative; curvilinear vegetal forms.
 - Charles Rennie Mackintosh (b. Glasgow, 1868; d. London, 1928). Leading British Art Nouveau architect and designer. Influenced by Ruskin, Morris, Scottish baronial and vernacular architecture, Japanese architecture and design. Exerted considerable influence on Viennese Art Nouveau architects and designers.

- High-backed chair, oak with horsehair upholstery over rush, c. 1896–97 (illustrated in Fiell, p. 435); commissioned by Miss Kate Cranston for the Luncheon Room of her Argyle Street “Willow Tea Rooms”. Rounded slightly tapering stiles (outer uprights of the chair back), with two flat vertical boards forming centre of the back; oval top with cut-out in form of flying bird; back stretcher (behind and below the seat itself) a wide board curving upwards towards centre; seat rail also slightly curved upwards towards centre; legs plain and square.

UNDERSTANDING

- Analyses/ interpretation/ significance/ appraisal, e.g.:
 - Webb.
 - Morris Chair. Essentially simple and practical design, although some fussiness of treatment in the turned rails and other decorative touches (strength also slightly compromised by the turnings).
 - Voysey.
 - *Tempus Fugit* clock. Architectonic forms reminiscent of Voysey’s Arts and Crafts architecture.
 - Tiffany.
 - *Jack-in-the-Pulpit* vase. Smoothly organic forms typical of Art Nouveau; richly coloured and textured glassware.
 - Lalique.
 - *Oiseau de Feu* lamp. Combination of curvilinear and rectilinear forms indicative of being on cusp between Art Nouveau and Art Deco.
 - Guimard.
 - *Balcony railing*. The overall organic and dynamic effect is offset geometrically by the horizontals of the top and bottom rails, and the three paired verticals within the design; at a time of extensive urban modernization, the design gives some sense of reconnection with the world of nature and organic forms.
 - Mackintosh.
 - High-backed chair. Imposing, dignified, severe air lent by the chair’s verticality and restrained decoration; rectilinear tempered by curvilinear; various symbolic meanings can be, and have been, attached to the forms (sky, Earth, etc.).
 - Comparison and contrast, e.g.:
 - General craft–design relationship.
 - Conflict, often unresolved, between aesthetic, social and/or economic principles.
 - Tension between art and industry.
 - Catering for elite or mass markets.
- Any other valid content identified at the standardising meeting to be credited.

AS 2 Section 7 – Three-dimensional craft and design 1918–1945

112.207: Explain your understanding of the term “functionalism”, as applied to certain kinds of 1918–1945 three-dimensional craft and design, establishing contexts and referring to appropriate practitioners and works.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context
 - **Modernist** De Stijl: Neo-Plasticism; Theosophical, Cubist, machine influences, Bakelite developed 1907–09; Gerrit Rietveld. Bauhaus: formal experiment, functionalism; craft with a view to mass-production; Ludwig Mies van der Rohe, Marcel Breuer, Marianne Brandt, Wilhelm Wagenfeld. Independents: Le Corbusier, Alvar Aalto
- and in summary
 - Art Deco.
- Identification of required practitioners and works, and descriptions of works, e.g.:
 - Gerrit Rietveld (b. Utrecht, Netherlands, 1888; d. Utrecht, 1964). De Stijl architect and designer. Trained as cabinetmaker in his father’s business 1899–1906 before establishing his own cabinet-making business in 1911, when he also began studying architecture. Joined De Stijl in 1918–19. Most radical of the De Stijl architects and designers:
 - *Red and Blue* (or *Red/Blue*) *Chair*, c. 1917–23; wooden construction, originally unpainted; c. 1923, painted in primary colours (red, yellow, blue) and black under De Stijl influence (especially of Piet Mondrian, 1872–1944). Rectilinear elements throughout; supporting frame of square-section elements – black, apart from the yellow ends – arranged vertically or horizontally; seat, flat rectangular section painted blue and slightly inclined downwards towards back; back, flat rectangular section painted red and slightly inclined back from vertical; arms – black, apart from yellow ends – horizontal; all elements seem to simply abut one another (no apparent jointing or visible means of attachment).
 - Marcel Breuer (b. Pécs, Hungary, 1902; d. New York, 1981). Modernist architect and designer. Bauhaus student 1920–23. Head of Bauhaus carpentry/furniture workshop c. 1925–28. One of the first to use tubular steel for furniture, influenced in this by his purchase of a racing bicycle c. 1925 and/or awareness of Dutch designer Mart Stam’s (1899–1986) tubular steel cantilevered chair prototype of 1926:
 - *Model No. B3, Wassily Chair*, c. 1925–27, for Standard-Möbel, Berlin (a manufacturing firm established by Breuer and the Hungarian architect Kalman Lengyel), and Thonet. Chrome-plated tubular steel armchair with stretched leather or canvas seat, back and arms; chair frame appears almost a continuous length of tubular steel, for part of its length forming a “runner” either side; named after Wassily Kandinsky (1866–1944), the abstract painter and Bauhaus master, who encouraged Breuer’s experiments in new materials.
 - Alvar Aalto (b. Kuortane, Finland 1898; d. Helsinki 1976). Leading Scandinavian Organic Modernist architect, city planner, furniture and glassware designer. Renowned for designing in sympathy with both the human user and the natural environment. Strongly influenced by nature and by Finnish vernacular architecture, craft and design. Saw the task of architect and designer to humanize mechanical forms. 1916–21, studied architecture at Helsinki Polytechnic Institute. Early architectural work reveals uneasy mix of Gothic and Classical elements – the latter relating to the Nordic Classical movement, active c. 1910–30. 1924, married designer Aino Marsio (1894–1949), subsequently collaborating with her on numerous projects. Experimented extensively with laminated wood and plywood. 1935, with Aino and others, founded Artek, a company to mass-produce and market his laminated birch moulded-plywood furniture – designs still being produced:

- *Paimio chair (Model No. 41)*, 1930–33; later produced by Artek. Moulded birch plywood armchair with sweeping curves; designed to help recuperation of patients at the Tuberculosis Sanatorium, Paimio, 1928–33, also designed by Aalto.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal/ discussion:
 - Rietveld.
 - *Red and Blue Chair*: apart from the inclined seat and back, complies with De Stijl’s visual fundamentalism of only verticals and horizontals, and only primary colours plus white, black and grey; aesthetic statement more than a practical chair design (although apparently more comfortable than it looks); structure clearly revealed on the level of arrangement of basic forms but not revealed on the level of how the wooden pieces are securely attached to one another (a chair is particularly demanding in terms of stresses and strains); antithesis of the craft skills Rietveld would have learnt in his father’s cabinet-making workshop; simple abutment of elements could be related to recent invention of (electric) welding, used in metalwork.
 - Breuer.
 - *Model No. B3*: chrome-plated tubular steel light, strong, adaptable, hygienic and reasonably workable and affordable; minimal visual clutter and consistent with developments in Modernist architecture; functional, modern, innovative, visually interesting/exciting; suitable for mass-production; can also be criticised as coldly clinical and lacking in comfort.
 - Aalto.
 - *Paimio chair*: functional; no applied decoration; self-coloured natural material, enhanced by varnish only, adds sense of warmth and psychological connection that would probably not be available from man-made materials such as steel or plastics; crisp and clean organic forms; connects with Scandinavian craft heritage in use of curved wood; making use of local skills and materials; pioneering use of plywood and the structural use of wood veneers (following recent developments in glue and timber cutting technologies, and mass production techniques); bentwood techniques allow efficient connection of vertical and horizontal elements; Modernism humanised; such work strongly influential on Charles and Ray Eames and other leading Modernist furniture designers.
 - “Functionalism”:
 - The doctrine or guiding principle, closely associated (although not exclusively) with Modernist architecture and design in the second quarter of the 20th century, that the form of a building or other artefact should be determined by practical considerations of use, materials and structure rather than by aesthetic or historicist ones, such as to do with symmetry, proportion or classical referencing.
 - Modernist functionalism is generally taken as deriving from American architect Louis Sullivan’s (1856–1924) aphorism, “form ever follows function”. Sullivan was specifically concerned with finding appropriate form for high-rise buildings newly made practical by, firstly, the availability of iron and steel for structural purposes, and, secondly, developments in lift and glass technology.
 - Statements of an essentially “functionalist” design principle can be found that considerably predate Sullivan, as, for instance, in Vitruvius, writing at about the time of Christ.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 8 – Textiles and fashion design 1850–1945

112.208: In relation to textiles and/or fashion design 1850–1945, critically appraise works by two designers that exemplify for you very different design approaches. Establish relevant contexts.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context
 - **Arts and Crafts Movement** Favoured sources, plant, bird, animal and other organic forms; Gothic and Japanese influences: William Morris, Liberty.

and/or

- **Bauhaus** Ethos of abstraction, formal experiment, functional design; craft with a view to mass-production; Adelgunde (Gunta) Stölzl, Anni Albers, Léna Meyer Bergner (Helene Bergner).

and/or

- **Art Deco** Formal simplicity infused with glamour and opulence; Sonia Delaunay, Marion Dorn.

and/or

- **Fashion** Earliest practical sewing machines invented 1840s–50s; economic, practical, gender, personal, lifestyle, social, cultural factors; emergence of haute couture; Charles Worth, Paul Poiret, Coco Chanel, Cristobal Balenciaga.

and in summary

- Arts and Crafts Movement, Bauhaus, Art Deco and/or Fashion, as not already covered.
- Identification of required movements, practitioners and works, and descriptions of works, e.g.:
 - William Morris (b. Walthamstow, Essex, 1834; d. Hammersmith, London, 1896). Craftsman, designer, poet, Socialist campaigner and leading member of the Arts and Crafts Movement. Principal influences, nature, medievalism, Pre-Raphaelitism and the writings of John Ruskin. No formal art or design training, apart from, in 1856, training briefly as an architect under George Edmund Street, whose senior assistant at the time was Philip Webb (1831–1915), subsequently a longstanding friend and colleague.
 - *Jasmine* wallpaper, 1872; one of over fifty wallpaper designs by Morris; the fact that this is a repeat pattern well disguised by the complex layering and intertwining of the plant forms.

and/or

- Adelgunde (Gunta) Stölzl (b. Munich 1897, d. Küsnacht, Switzerland 1983). Textile artist and designer who studied and taught at the Bauhaus (its only female master) and who played leading role in moving textiles design from craft-based pictorialism to abstraction-based art and industrial-production design. 1913–17, studied at the Kunstgewerbeschule (School of Applied Arts), Munich; 1917–18, served as Red Cross nurse in WWI; 1919–23, studied at Bauhaus; 1924, studied dyeing and textile production at a school in Krefeld and helped Johannes Itten establish the Ontos weaving workshops, in Herrliberg, near Zürich; 1925, returned to Bauhaus as member of teaching staff and, in 1927, was appointed Junior Master in the weaving workshop. 1929, married Israeli architecture student Arie Sharon and thereby lost German citizenship. 1931, political pressure by Nazis forced her resignation (the school itself closing 1932); 1931, emigrated to Switzerland and, with her former students Gertrud Preiswerk and Heinrich Otto Hürlimann, established S-P-H Stoffe (S-P-H Fabrics), a textile studio and weaving workshop. 1933–37, business partnerships dissolved due to financial difficulties. 1937, established her own hand weaving studio, Handweberei Flora (Hand Weaving Studio Flora):

- *Schlitzgobelin Red-Green Rug*, 1926–27; hand-loom tapestry in cotton, wool, silk and linen; richly coloured and patterned; predominantly reds and greens, with grids and checkerboard patterns set against wave forms top and bottom.

and/or

- Marion Dorn (b. San Francisco 1899, d. 1964). Art Deco textile, carpet, interior and graphic designer. 1914–16, studied graphics at Stanford University; 1923, visited Paris and met several leading textiles designers, including Raoul Dufy; c. 1923–24, moved to London with American graphic designer Edward McKnight Kauffer, living and working with him until his death in 1954, and began to establish herself as successful freelance illustrator and designer. 1924–1940, based in London, obtaining many prestigious commissions for hotels, transport companies, carpet and textiles manufacturers; e.g.:
 - *Aircraft* fabric, 1936; screen-printed linen and rayon, for Old Bleach Linen Company, Randalstown, N. Ireland; used in decoration of British ocean liner *Orcades*, commissioned in 1937; simplified overlapping bird-forms, without shading or modulation, printed in yellow, green, turquoise and navy blue.

and/or

- Charles Worth (b. Bourne, Lincolnshire, 1825; d. Paris, 1895). English-born fashion designer based in Paris; widely referred to as the first modern couturier.
 - An example of his silk ball gowns, c. 1872. Curvaceous hourglass form achieved by use of corsetry and bustle; ostentatiously expensive fabrics and trimmings (see, e.g., detailed description and illustrations at: “Charles Frederick Worth: Ball gown (C.I.46.25.1a-d)”. In *Timeline of Art History*. New York: The Metropolitan Museum of Art, 2000–. http://www.metmuseum.org/toah/hd/wrth/hod_C.I.46.25.1a-d.htm (October 2006)).

and/or

- Gabrielle “Coco” Chanel (b. Saumur, France, 1883; d. 1971). Fashion designer renowned for the comfort, practicality and simple elegance of her designs, and credited more than any other with freeing women from the constraining and generally ostentatious clothing of the previous era. Precise details of early life unclear but seems to have been raised in a convent orphanage at Aubazine, where she learned to sew. 1902–04, café-concert singer under name “Coco”. 1910, with the financial backing of Arthur “Boy” Capel, she began making and selling hats from her own shop in Paris. 1913, opened a boutique in Deauville and, in 1915, another in Biarritz, selling her own designs of hats, blouses and chemises – designed to be worn without corsets. 1916, began using jersey (a cheap material previously found mostly in underwear) for her garments; borrowing elements from menswear (sweaters, blazers, trousers...). By 1920s, she had established a couture house, textile factory and range of perfumes, including *Chanel No. 5*. 1939–53, her business closed on outbreak of WWII and, following an affair with a Nazi officer, she went into exile in Switzerland. 1954, business reopened.
 - An example of her “little black dress”, c. 1927. Pleated wool jersey dress; finely tailored “see, e.g., detailed description and illustration at “Gabrielle ‘Coco’ Chanel: Day ensemble (1984.28a-c)”. In *Timeline of Art History*. New York: The Metropolitan Museum of Art, 2000–. http://www.metmuseum.org/toah/hd/chnl/hod_1984.28a-c.htm (October 2006).

UNDERSTANDING

- Analysis /interpretation/ significance/ appraisal, e.g.:
 - Morris:
 - *Jasmine*: good example of Morris’s mature style; intimate knowledge of nature combined with informed and talented sense of pattern making; one of his less assertive designs; typically, an evocation of the plant rather than a detailed rendering.

and/or

- Stözl:
 - Example of her freely experimental hand-woven textile art; tapestry a medium that lends itself particularly well to grids and abstract forms, fully consistent with Bauhaus approach; strong similarities with paintings of Bauhaus master Paul Klee; richly complex and dynamic abstract patterns.

and/or

- Dorn:
 - *Aircraft* fabric: figuration retained but severely simplified; lyrical sense of flight, sunlight and fleeting shadows; linen-rayon combination adds sheen and interest to the fabric.

and/or

- Worth:
 - Ball gown: extravagant form, colour, materials and decorative treatment, finely and expensively crafted; female form extravagantly exaggerated (using corsetry, bustle and voluminous fabrics) to point where much physical activity and, by implication, female independence is curtailed; Worth's career coincident with reestablishment of French Empire, under Napoleon III, and the Empress Eugénie his major client.

and/or

- Chanel:
 - "Little black dress": modest form, colour, materials and decorative treatment, finely and expensively crafted; innovative use of black as a fashion colour; simple clean lines and inconspicuous detailing often described as "classically elegant"; "boyish" lines reflecting new independence and freedom of lifestyle for western women post-WWII, for which Chanel herself was a leading role model; certain democratisation of style, connecting with servants' uniforms, and capable of being cheaply emulated.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 9 – Graphic design 1850–1945

112.209: Who do you consider made the single greatest contribution to graphic design 1850–1945? Establish contexts and refer to appropriate movements, designers and works in support of your choice.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context
 - **Post-Impressionism and Art Nouveau** Contemporary art influences; street as gallery; Jules Chéret, Henri de Toulouse-Lautrec, Alphonse Mucha, Aubrey Beardsley.
 - or
 - **Wars and revolution** World Wars, 1914–18, 1939–45: James Montgomery Flagg, Alfred Leete, John Heartfield (Helmut Herzfeld), Jean Carlu, Abram Games. Russian Revolution, 1917: El Lissitzky, Alexander Rodchenko.
 - or
 - **Modernism** Bauhaus: ethos of formal experiment, abstraction, functional design; Laszlo Moholy-Nagy, Herbert Bayer, Max Bill. Art Deco: formal simplicity infused with glamour and opulence; Edward McKnight Kauffer, Adolphe Mouron Cassandre. Independent: Jan Tschichold.
- and in summary
 - Post-Impressionism and Art Nouveau, Wars and revolution and/or Modernism, as not already covered.
- Identification of required practitioner and works, and descriptions of works, e.g.:
 - Jan Tschichold (b. Leipzig, Germany, 1902; d. Locarno, Switzerland, 1974); teacher, calligrapher, typographer, book designer and writer; trained at the Academy of Graphic Arts and Book Design in Leipzig 1919–22; influenced by Russian Constructivism, De Stijl and the 1923 Weimar Bauhaus exhibition to adopt Modernist design principles, in his book *Die Neue Typographie (The New Typography)* Berlin, 1928, advocating such as asymmetric layouts, grids, sans serif typefaces, left-justified/ragged-right text, use of photographs rather than drawn illustrations; persecuted by Nazis and escaped to Switzerland in 1933; published *Typographische Gestaltung*, Basle, 1935, but from this time began to question Modernism, eventually associating it with totalitarianism and fascism; increasingly used symmetrical layouts and/or serif typefaces; lived in London 1946–9, working on Sir Allen Lane's commission to redesign all Penguin Books publications (comprising 19 series – Penguin Books, Pelican Books, Penguin Classics, Penguin Shakespeare, etc – and over 500 individual titles); in 1947, as part of this redesign, he formulated the *Penguin Composition Rules*, which are still widely used as guidance on typographic practice; typeface designs include *Transit (or Transits)*, c.1930–31; *Saskia*, c. 1931–32; and *Sabon*, c. 1964–67; internationally influential through his works and writings.
 - *Die Hose*, 1927, film poster in red and black on white for Phoebus Palast (Palace), Munich; asymmetric layout and sans serif text; text – all upper case and in five sizes – at about 30° to the horizontal throughout, in white on red, black on red, and black on white; black and white photographic still from the film within a circular frame.
 - Prospectus for *Die Neue Typographie*, 1928: vertical A4 format with asymmetrical layout of black sans serif text on yellow ground; two unequal columns of text, with a third block of text, lower right, between the vertical midpoint and the right-hand margin; the latter block along with the left hand column fully justified; capitals, bold and solid blacks variously used.
 - The Penguin Shakespeare generic cover, 1947, for Penguin Books, London: the company's general aim to produce a wide range of well designed books in

large numbers and at affordable prices; this cover representative of one of 19 published or proposed series; black and red on white ground; a white-edged black band bordering each of the four sides; white lettering, hand drawn by Tschichold, reading “THE PENGUIN SHAKESPEARE” within the top band and “PENGUIN BOOKS” within the bottom; discreet foliate designs within the side borders; inside the border, the play’s title in centred red italic roman; immediately below this, a centred oval black and white engraved portrait of Shakespeare, by Reynolds Stone; below this, editor and price details, separated by a tapering red horizontal line, in small centred red roman.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - Tschichold:
 - *Die Hose* film poster: early example of his Modernist typography; radically different from classical centred typography; asymmetry and effective use of white space something shared with Japanese painting and graphic design; purity of form, use of severe geometry, functionalism, rejection of the past and a declared dislike of “selfish individualism” all accord with principles widely held by Constructivist, De Stijl and Bauhaus artists and designers; use of photographic image emphasises openness to new technologies, as does the fact that it is a film poster; connects also with popular culture.
 - Prospectus for *Die Neue Typographie*: a practical demonstration – for printers and graphic designers primarily but also for a much wider public – of the benefits of the “new typography”; cleaner and more flexible, functional and “modern” than the centred and usually very cluttered typography of the day; closely paralleling other developments in modernist art, architecture, craft and design.
 - The Penguin Shakespeare cover: return to classical symmetrical/centred typography, serif typefaces and some hand-drawn lettering and illustration, but also – in its clean and relatively simple design – informed by Modernist principles; appropriate to brief in evoking the times of both Shakespeare and Tschichold.
- Any other valid content to be identified at the standardising meeting and credited.

AS 2 Section 10 – Automotive design to 1945

112.210: Give a broad critical appraisal of family car design to 1945, establishing contexts and referring to appropriate designers, manufacturers and cars.

Indicative content

Answers should include the following:

KNOWLEDGE

- Immediate context:
 - **Family car** From batch- to mass-production; Henry Ford/Ford, Henry Royce/Rolls-Royce, Citroën, Chrysler, Mercedes-Benz, Ferdinand Porsche (Senior), Battista Pininfarina
- And in summary
 - Other.
- Identification of required practitioners and works, and description of works, e.g.:
 - Henry Ford (b. Michigan, USA, 1863; d. Dearborn, Michigan, 1947): engineer, designer, industrialist and pioneer of assembly-line mass production (standardised parts, division of labour, and assembly-line system carrying the product to the worker), greatly increasing output and savings on production costs. By 1896 he had designed and built his first car, the four-horsepower *Quadricycle*. Various family car and racing car prototypes followed, 1896–1903, relationships with financiers ending acrimoniously when he insisted on design development and they on immediate production. 1903, the Ford Motor Company incorporated, almost immediately profitable but also almost immediately engaged in legal challenge to a patent claiming rights on all petrol-powered cars, losing the case in 1909 but winning it on appeal in 1911. Also in dispute 1909–19 with his own shareholders who wanted to take profits out of the Company rather than reinvest them into design and production improvements. By 1919 all shares in the Company were held by Ford and other family members. By 1927, when production had been relocated to a huge new plant at River Rouge, Michigan, the Company was largely self-sufficient in production, assembly and transportation, and operating in 33 countries, but about to suffer serious market loss due both to the Great Depression and tardiness in matching what rival car manufacturers were by then able to offer. *Model T* design team led by Childe Harold Wills and included Joseph A. Galamb and Eugene Farkas.
 - *Model T* five-seat, front-mounted four-cylinder, two-speed family car, designed 1908, assembly-line mass production from 1913; almost 17 million manufactured in USA, Canada and Britain by 1927, about half of the global car production to that time; simply, practically and economically designed; various body styles on a standard chassis; various body colours offered initially but restricted to black from 1913 (Ford: “in any colour you choose, so long as it’s black”); the unit price of about \$850–950 in 1908 falling to about \$290 by 1927, despite initially paying workers well above going rate.
 - Ferdinand Porsche (Senior; b. Maffersdorf, Bohemia {now Leberec, Czech Republic} 1875; d. Stuttgart, Germany, 1951); automotive designer and manufacturer; co-founder, with his son Ferdinand (Junior) of the car company bearing the family name. His father, Anton, had a metalsmithing business in Maffersdorf. Trained in electrical engineering, moving to Vienna in 1891. 1898, employed as chief automotive designer by Jakob Lohner & Co, Viennese coachbuilders venturing into car production. 1902, drafted into military service, his duties including chauffeuring Archduke Franz Ferdinand of Austria whose assassination in 1914 sparked WWI. 1905, appointed technical director of car company Austro-Daimler. 1914, with outbreak of WWI, designed aircraft engines and heavy artillery vehicles. 1916, promoted to managing director of Austro-Daimler. 1921, resigned from the company when it refused to mass-produce a car based on his “Sascha” small open-top two-seater prototype. 1923,

appointed technical director of Daimler Motor Works in Stuttgart. 1926, the company merged with Benz & Cie to form Daimler-Benz. 1928, designed the Mercedes-Benz SS (Super Sport) and SSK (Super Sport Kurz) roadsters. 1929, resigned following executives' refusal to back his proposal for a small mass-produced car. 1930–31, formed design consultancy company with fellow engineer Karl Rabe, and Ferdinand Jnr on staff, working on engine and suspension designs for various companies. 1932, offered generous terms by Josef Stalin to relocate to Soviet Union and oversee mass production of a small car; offer declined, reportedly because it would mean not taking part in European Grand Prix races. 1933, similar discussions with Hitler, for a *Volks-wagen* or "People's Car", production beginning in 1939 but suspended on outbreak of WWII the same year. 1939–44, head of the German Tank Commission, also overseeing production at the Peugeot factories in occupied France. 1948, with Ferdinand Jnr, launched own manufacturing company that would eventually – mainly due to sustained development of its Volkswagen Beetle-based 911 sports car – become arguably the most successful sports car manufacturing company in the world. In 1999 he posthumously won the Car Engineer of the Century award.

- *Lohner-Porsche Electromobile* or *System Lohner-Porsche* or *Toujours-Contente*; design and development 1898–99; production 1900–05. Driven by 1,800 kg of lead-acid battery power with an electric hub motor in each of either two or four of the four wheels. Limited range, limited ability to climb hills, and a very high price (15,000 Austrian Crowns) curtailed its success. Possibly the earliest recorded example of a front-wheel drive vehicle.
- *Lohner-Porsche Mixte Hybrid*, 1901–06. Earliest recorded petrol-electric hybrid vehicle. Daimler internal combustion petrol engine driving generator powering a small battery-pack and electric hub motors. Over 300 *Lohner-Porsches* were sold and, despite their weight, the vehicles established several Austrian land speed records (about 56 km/hr, 35 mph). Porsche himself drove a *Hybrid* to win the Exelberg Rally in 1901.
- *Volks-wagen* (People's Car), also known as *Kdf-Wagen* (Kraft durch Freude, Strength through Joy), *Kaefer* (Beetle), and *Volkswagen Beetle*; small streamlined family saloon with flat-4 air-cooled petrol engine at rear, driving rear wheels; designed 1933–34; contract from Hitler 1934; testing of prototypes began 1936; building of factory complex and assembly lines at Wolfsburg began 1938; limited cars produced before outbreak of WWII in 1939 and the factory complex turned over to military production. *Beetle* production restarted after the War ended in 1945 and continued until 2003. It should be noted that others, aside from Porsche, have been credited with at least contributing to the car's design:
 - Erwin Komenda, Porsche's chief designer; responsible for the car's styling and design.
 - Hans Ledwinka (b. Klosterneuberg, Lower Austria, 1878; d. Munich, Germany, 1967), chief designer of the *Tatra T97*, produced in Czechoslovakia 1936–39 and very similar to the *Beetle*. Tatra sued Porsche for damages before WWII and Germany's annexation of Czechoslovakia in 1938 intervened for a time. *T97* production was halted in 1939, apparently on Hitler's direct orders. Porsche himself reportedly acknowledged the influence and in 1961 Volkswagen compensated Tatra to the amount of 3,000,000 Deutsche Mark.
 - Béla Barényi (1907–97), Hungarian-Austrian engineer and head of Daimler-Benz's pre-development department 1939–72; nominee for Car Engineer of the Century in 1999. Reported to have conceived the basic Volkswagen Beetle design in 1925

- Charles Stewart Rolls (1877–1910) and Henry Royce (1863–1933), founders of Rolls-Royce Ltd, 1906; Rolls mostly providing the finance and business expertise and Royce the engineering and designing.
 - *40/50 hp* or *Silver Ghost*, 1907–25 (after introduction of the *Phantom I* in 1925, all *40/50 hps* were officially renamed *Silver Ghosts* after a particular 1907 example – finished in aluminium paint and with silver-plated fittings – ordered by the company’s Commercial Managing Director, Claude Johnson); six-cylinder (7,036cc, in 1909/10 increased to 7,428cc; 48–80 bhp), three-speed (four-speed from 1913) car with various body styles (such as the Barker Tourer, Hooper Landaulet, London-Edinburgh type, and Barker enclosed cabriolet); substantial chassis had rigid front and rear axles with leaf springs all round; electric starting and lights introduced from 1919; special lubrication and bearings used in the engine, transmission and elsewhere to minimize noise and vibration, and to increase reliability; extensive, arduous public trials undertaken to increase awareness of the new car and demonstrate its reliability, quietness and refinement.

UNDERSTANDING

- Analysis/ interpretation/ significance/ appraisal, e.g.:
 - Ford. The *Model T* arguably more than any other, made the car “the ordinary man’s utility rather than... the rich man’s luxury”, with stated intention that the car be “so low in price that no man making a good salary will be unable to own one”. Own workers also viewed as customers. Major role in general social change from an agricultural to an industrial society, and pioneering international conglomerates. Extensive repercussions affecting everything from urban planning to world economics. Ford assembly-line production methods revolutionised modern manufacturing in general. The utilitarian nature of the *Model T*’s design also its eventual downfall – others unable to match its price but able to surpass it in customer appeal (features, engineering developments, exclusiveness, styling, colour choice, etc).
 - Porsche. A family tradition of metalworking and engineering passing from one generation to the next. Lived and worked through change-over from horse-drawn carriages to automotive vehicles. Reputation for high quality and innovative engineering honed in the particularly competitive environments of rallying, track racing, and war. Sustained engineering development favoured over rapidly obsolete styling.
 - Rolls-Royce. *40/50 hp* or *Silver Ghost*: promoted as having been designed and constructed to the highest standards almost irrespective of costs; unashamedly addressing an elite, luxury, exclusive market.
- Any other valid content to be identified at the standardising meeting and credited.

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