Subject: Design Technology

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Structure of the exam:

- 1 exam
- 45 minutes
- 40 marks in total

Topics to be covered in the exam:

ICT - Adobe Illustrator

- Vector graphics and the purpose of Adobe Illustrator in digital design
- Opening, saving, exporting and uploading Illustrator work correctly to Teams
- Using basic tools including shape tools, fill, stroke, selection and layers
- Creating simple digital characters and animal illustrations using basic shapes
- Using the Direct Selection Tool, Shape Builder Tool, Pathfinder and anchor points to refine designs
- Researching suitable animal imagery and responding to an RSPCA-style design brief
- Using layers, gradients, detail, texture and reference images to develop more complex illustrations
- Planning and independently creating a final professional-style Illustrator outcome from a brief

Paper and Boards

- Paper and board categories, uses, stock sizes and properties including gsm and microns
- Paper being made from wood pulp and board thickness being measured in gsm or microns
- Drawing equipment including 60/30 set square, 45 set square, compass, drawing board and parallel motion
- Isometric drawing, one-point perspective, two-point perspective and vanishing points
- Drawing conventions including construction lines, finished lines, hidden detail, centre lines, dimensions and title blocks
- Orthographic projection, sectional views and the 3rd angle orthographic symbol
- Typography, tessellation, radial symmetry, bilateral symmetry, complementary colours and kaleidoscopic designs
- Creating a flexagon accurately, transferring designs and applying colour theory and embellishment

Catering

- Food hygiene and safety routines including sanitising, preventing cross-contamination and using equipment safely
- Knife skills and preparation techniques including deboning, dicing, brunoise and julienne cuts
- Cooking methods including boiling, simmering, steaming, sautéing, baking, roasting, grilling and using a bain-marie
- Nutrition and health, including protein, carbohydrates, fibre, vitamins, healthy fats, sugar and sodium
- Yeast dough skills including kneading, proving and creating different breads such as focaccia and honey oat bread

- Making sauces, marinades and bases including BBQ sauce, sweet and sour sauce, curry sauce, sofrito and arrabbiata
- Preparing dishes such as BBQ chicken thighs, sweet and sour chicken, sweet potato and squash curry, fresh egg pasta and brownies
- Understanding key terms including debone, glaze, parboil, caramelise, marinade, emulsify, al dente, temper and mise en place

Wooden Box

- Timber categories including softwoods, hardwoods and manufactured boards
- Properties and uses of pine, cedar, redwood, oak, mahogany, balsa, MDF, plywood and chipboard
- Tools and equipment including tenon saw, bench hook, try square, chisel, marking gauge, coping saw, scroll saw and pillar drill
- Measuring and marking out accurately using a try square and marking gauge
- Cutting and assembling a wooden box safely using a tenon saw, PVA glue, panel pins and pin hammer
- Using plywood for the top and base and understanding how manufactured boards are produced
- Sanding, finishing, varnishing or painting the wooden box to improve the final surface finish
- Understanding CAD/CAM links, orthographic projection and sequence diagrams for manufacture

USB Lamp

- Using CAD/CAM and 2D Design to draw and manufacture an acrylic lamp base
- Drawing to accurate dimensions, exporting files and understanding laser cutter settings
- Material knowledge including acrylic, aluminium, stainless steel, thermosetting plastics and thermoforming plastics
- Selecting tools and equipment to manufacture the stem safely and accurately
- Centre lathe processes including facing off and using the tailstock and drill chuck
- Using a tap and die to create internal and external threads
- Soldering accurately and connecting LED strips, switches and USB power supplies safely
- Assembling from a technical/orthographic drawing and testing the final lamp circuit and product
- Evaluating the lamp against the specification, identifying strengths, weaknesses and realistic improvements

Types of Questions in the Exam Paper

- 12 Multiple choice questions (1 mark each) = 12 marks
- 6 Subject knowledge questions (1 mark each) = 6 marks
- 1 'Explain one reason why...' question (2 marks) = 2 marks
- 3 'Describe three features of...' questions (3 marks each) = 9 marks
- 1 'Describe 3 ways... influenced...' question (3 marks) = 3 marks
- 2 'Explain two reasons why...' questions (4 marks each) = 8 marks

Essential subject revision:

Type of revision	Resources needed	Time required
Mind Maps Mind maps of key topics.	Year 9 ICT resources Year 9 Paper and Boards resources Year 9 Catering booklet/resources	30 minutes

	Year 9 Wooden Box resources Year 9 USB Lamp resources	
Exam Style Question practice Completing exam-style questions.	Practice Questions for Exam - Year 9 Knowledge organiser questions Revision question sheets	30 minutes

Additional subject revision:

Type of revision	Resources needed	Time required
Recapping Homework content Recapping key vocabulary and knowledge organiser content.	Keyword sheets Class booklets Evidence book notes	30 minutes
Reteaching Lesson Content	Year 9 ICT resources Year 9 Paper and Boards resources Year 9 Catering resources Year 9 Wooden Box resources Year 9 USB Lamp resources	30 minutes per lesson
Self-quizzing Using look, cover, write check or completing blank knowledge organisers.	Same as above	45 minutes per lesson
Practical process recap Revising the order of practical steps, tools, materials and safety routines.	Lesson booklets Practical method sheets Teacher notes	30 minutes