



7906-505 MARCH 2018

Level 2 Technical Certificate in Architectural Joinery

Level 2 Architectural Joinery – Theory exam

Wednesday 21 March 2018
09:30 – 11:30

You should have the following for this examination

- a multiple-choice answer sheet
- a pen with black or blue ink
- non-programmable calculator

This question paper is the property of the City and Guilds of London Institute and is to be returned after the examination.

Read the following notes before you answer any questions

- You **must** use a pen with black or blue ink to complete **all** parts of the answer sheet.
- Check that you have the correct answer sheet for the examination.
- Check that your name and candidate details are printed correctly at the top of your answer sheet.
- Inform the invigilator if your name or examination details are not correct.
- Each question shows **four** possible answers (lettered 'a', 'b', 'c' and 'd'); only **one** is correct.
- Decide which **one** is correct and mark your answer on the **answer sheet** with your pen.

For example if you decide 'a' is correct, mark your answer like this

101	<input checked="" type="radio"/>	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
	Cancel	Cancel	Cancel	Cancel

If you want to change your answer, cancel your first choice by filling in the 'cancel' box below the circle like this

101	<input checked="" type="radio"/>	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
	Cancel	Cancel	Cancel	

Then mark the answer which you have now decided is correct. For example if you now decide 'c' is correct, mark your answer like this

101	<input checked="" type="radio"/>	<input type="radio"/> b	<input checked="" type="radio"/>	<input type="radio"/> d
	Cancel	Cancel	Cancel	

Any other marks on the form may invalidate some of your answers.

- Any calculations or rough working can be done on the question paper.
- Attempt all questions. If you find a question difficult, leave it and return to it later.

This paper contains 60 questions. Answer them using the 'boxes' numbered 1 to 60 on the answer sheet.

1 Which member of the building team has a craft role?

- a Surveyor.
- b Bricklayer.
- c Quantity surveyor.
- d Architectural technician.

2 What is a 3D model-based process, which equips professionals with the information to manage construction?

- a The specification.
- b Bills of quantities.
- c CPA.
- d BIM.

3 What regulation covers employee's working on a podium platform?

- a CDM.
- b WAHR.
- c COSHH.
- d PUWER.

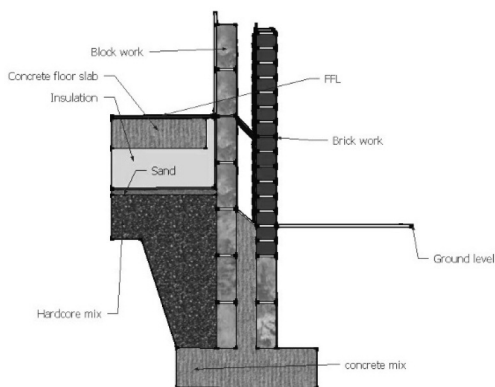


Figure 1

4 What type of foundation is shown in Figure 1?

- a Pad.
- b Raft.
- c Piled.
- d Strip.

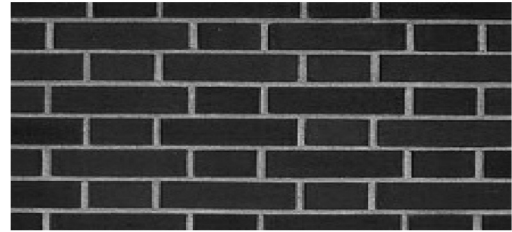


Figure 2

5 What type of brick bond is shown in Figure 2?

- a Header.
- b English.
- c Flemish.
- d Stretcher.

6 What type of paint system is **most** suitable for internal woodwork?

- a Primer, mist coat and gloss.
- b Primer, undercoat and gloss.
- c Primer, mist coat and emulsion.
- d Primer, undercoat and mist coat.

7 Which statement is true, in relation to drawing methods?

- a Hand drawings can be easily distributed.
- b CAD drawings can be easily modified.
- c Hand drawings are only used by technicians.
- d CAD drawings can be produced by anyone on site.

8 How are the general public, materials and equipment protected from work being undertaken on-site?

- a Close supervision.
- b Security lighting.
- c Movement sensor.
- d A boundary site hoarding.

9 What component is the upper end of a common rafter fixed to?

- a Wall plate.
- b Sole plate.
- c Ridge.
- d Purlin.

10 Which part of a structure is installed first in a new build?

- a Stud work.
- b Pipe casing.
- c Door lining.
- d First floor.

11 A house is being constructed with a cavity wall with a block inner and a brick outer leaf. Which statement **best** describes the reason the brickwork bond is used for the outer leaf?

- a Flemish bond as it is the quickest to lay.
- b English bond, as this is the strongest bond.
- c Stretcher bond, as this is used for a half brick wall.
- d Stretcher bond, as this is used for a one brick thick wall.

12 The walls of a garage with a couple roof construction have been pushed apart at wall plate level. Which statement is true?

- a The mortar used when laying the bricks was too weak.
- b The weight of the roof covering has caused the rafters to spread.
- c The wall plate has rotted no longer providing support to the rafter feet.
- d The section size of the rafters was too large.

13 What approved document of the Building Regulations, provides information on required handrail heights?

- a A.
- b C.
- c K.
- d L.

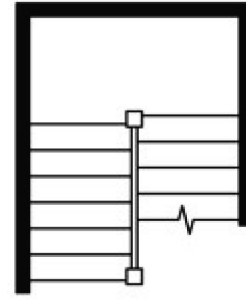


Figure 3

14 What type of staircase is shown in Figure 3?

- a Dog leg.
- b Winding.
- c Open well.
- d Independant.

15 Which is a standard commercial size for MDF board?

- a 2440 mm x 1220 mm
- b 2000 mm x 1000 mm
- c 2440 mm x 1000 mm
- d 2000 mm x 1220 mm



Figure 4

16 What type of timber defect is shown in Figure 4?

- a Blue stain.
- b Arris knot.
- c Face knot.
- d Resin pocket.

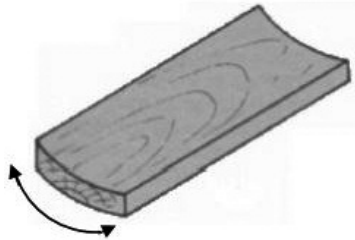


Figure 5

17 What defect is shown in Figure 5?

- a Springing.
- b Twisting.
- c Cupping.
- d Bowing.



Figure 6

18 What type of gauge is shown in Figure 6?

- a Cutting.
- b Mortice.
- c Marking.
- d Combination.

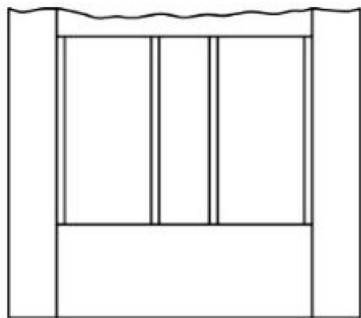


Figure 7

19 What type of panel is shown in Figure 7?

- a Sunk.
- b Raised.
- c Bead and butt.
- d Bead and flush.

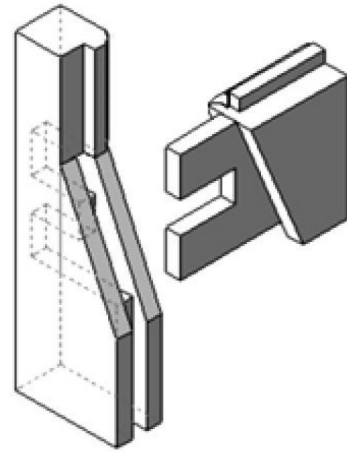


Figure 8

20 What type of mortice and tenon joint is shown in Figure 8?

- a Franked.
- b Haunched.
- c Diminished shoulder.
- d Long and short shouldered.



Figure 9

21 What type of moulding profile is shown in Figure 9?

- a Ovolo.
- b Torus.
- c Pencil round.
- d Lambs tongue.



Figure 10

- 22 What item of ironmongery is shown in Figure 10?
- Bales catch.
 - Sash pulley.
 - Drawer runner.
 - Concealed hinge.
- 23 What three headings are all required on a cutting list?
- Thickness, length and remarks.
 - Material type, width and cost.
 - Quality, cost and description.
 - Purpose, remarks and cost.
- 24 What scale would joinery detail be shown on a workshop rod?
- 1:1
 - 1:2
 - 1:5
 - 1:10
- 25 Which timber conversion method produces the least waste?
- Tangential.
 - Quarter cut.
 - Boxed heart.
 - Through & through.
- 26 Which timber is **most** durable?
- Whitewood.
 - Redwood.
 - Beech.
 - Oak.
- 27 Which timber has the lowest density?
- European redwood.
 - European whitewood.
 - Mahogany.
 - Oak.
- 28 Which type of tenon would be use to join the middle rail to the stile, on a frame ledged and braced door?
- Fox wedged.
 - Twin.
 - Bare faced.
 - Stub.
- 29 What pitch is suitable for dovetailing softwood?
- 1:2
 - 1:4
 - 1:6
 - 1:8.
- 30 What would be the **most** suitable thickness of a single tenon for a door jamb with a 95 mm x 57 mm section?
- 10 mm.
 - 12 mm.
 - 25 mm.
 - 50 mm.
- 31 What type of square is **best** used to transfer lines around pre-moulded sash stock?
- Box.
 - Tee.
 - Set.
 - Try.
- 32 When a line has been marked around four faces of a piece of timber they do not meet. This means the square is **not** true. How could this situation be avoided?
- Using a sharp 2H grade pencil.
 - Ensuring the stock of the square was fully against the timber.
 - The stock of the square should only have been applied to the face side and edge when marking the lines.
 - A square with a longer stock should have been used to bridge the imperfections along the length of the timber.

- 33 After you have marked out a pair of strings, to ensure the assembled stair isn't twisted, what needs to be checked prior to routing, the tread and riser housings.
- a Check the hypotenuse length.
 - b Check the strings are marked out as a pair.
 - c Check that the nosing projection is less than 15 mm.
 - d Check the marked out pitch exceeds 45°.

- 34 The question below consists of a statement and a reason. Identify the comment that correctly relates to these and select an answer that **best** match the statement and reason.

Statement

The moisture content of timber used in internal joinery can vary between 8-20%.

Reason

The moisture content will stabilise with its final environment.

- a Statement true reason true.
- b Statement false reason true.
- c Statement true reason false.
- d Statement false reason false.

- 35 Match the power tools in list 1, with the operations they are **best** suited for in list 2 and select the correct answer.

List 1

- 1 Chop saw
- 2 Router
- 3 Drill/driver
- 4 Random orbital sander
- 5 Belt sander
- 6 Jigsaw

List 2

- W Mitring staff beads
- X Sanding the faces of hardwood doors
- Y Fixing concealed hinges
- Z housing stair strings.

	W	X	Y	Z
a	1	5	3	6
b	1	4	3	2
c	6	5	2	6
d	6	3	5	2

- 36 You have been asked to manufacture panelled doors in European Oak. What is the **best** conversion method to be used?
- a Tangential, as this will produce the strongest timber.
 - b Through and through, as this produces the strongest timber.
 - c Tangential, as this will show the medullary rays to best effect.
 - d Quarter sawn, as this will show the medullary rays to best effect.

- 37 The question below consists of a statement and a reason. Select an answer that **best** relates to the statement and reason.

Statement

In high class joinery production a central tenon is used to connect the strings to the newels.

Reason

It prevents the string from cupping in its width along its entire length.

- a Statement true reason true.
- b Statement false reason true.
- c Statement true reason false.
- d Statement false reason false.

- 38 Oak matchboarding is to be fixed to a ledged and braced door. What type of nail should be used?

- a Brass nails, as they will not bend.
- b Mild steel ovals, as they will not rust.
- c Stainless nails, as it will not corrode.
- d Galvanised clout nails as they clench easily.

- 39 What guidance document specifically provides information on the safe use of woodworking machinery?

- a CDM.
- b ACOP.
- c COSHH.
- d RIDDOR.

- 40 What is the **maximum** gap allowed between the back of a saw blade and the riving knife at table level?
- a 5 mm.
 - b 8 mm.
 - c 11 mm.
 - d 14 mm.

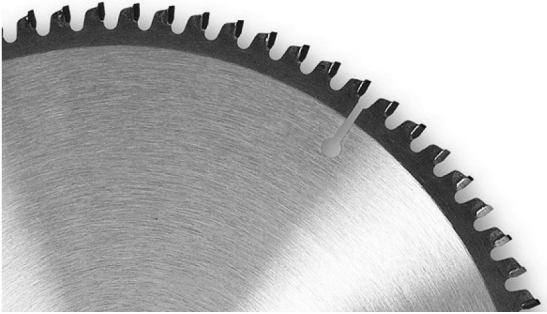


Figure 11

- 41 What circular saw tooth type is shown in Figure 11?
- a HHS, positive rake.
 - b HHS negative rake.
 - c TCT positive rake.
 - d TCT negative rake.
- 42 On what type of sawing machine would a thrust wheel be found?
- a Rip.
 - b Chop.
 - c Band.
 - d Crosscut.
- 43 What is the name of the guard that covers the cutter block on a surface planer?
- a Nosing.
 - b Bridge.
 - c Riving.
 - d Crown.
- 44 On which machine is a shaw guard found?
- a Cross cut saw.
 - b Thickness planer.
 - c Hollow square morticer.
 - d Vertical spindle moulder.

- 45 On what machine would a depth stop be found?
- a Morticer.
 - b Bandsaw.
 - c Dimension saw.
 - d Spindle moulder.



Figure 12

- 46 What type of router cutter is shown in Figure 12?
- a Core box.
 - b Flush trimming.
 - c Ball race guided.
 - d Fixed pin guided.
- 47 What gap should be set between the auger and 12 mm chisel on a morticing machine?
- a 0.5 mm.
 - b 1.5 mm.
 - c 3.5 mm.
 - d 5.5 mm.
- 48 When changing a bandsaw blade, which pre start check is made?
- a The tracking is correct.
 - b The cutter speed is correct.
 - c The bridge guard is correctly set.
 - d The riving knife is positioned correctly.
- 49 Which operation **must** be carried out on a bandsaw at the end of the day?
- a Remove the blade.
 - b Ease off the tension.
 - c Remove the mouth piece.
 - d Ease off the thrust wheel.

- 50 In what circumstances can a rebate be formed on a surface planer?
- When the rebate is over 50 mm wide.
 - When the rebate is over 15 mm deep.
 - When a spindle moulder is not available.
 - When a combination saw bench is not available.
- 51 What depth should the chisel be set when producing through mortices on 40 mm thick timber?
- 20 mm.
 - 25 mm.
 - 35 mm.
 - 40 mm.
- 52 On what machine is a tunnel guard used when machining timber?
- Bandsaw.
 - Thicknesser.
 - Cross cut saw.
 - Profiling machine.
- 53 What feature of a saw tooth collects the waste wood as it rotates?
- Set.
 - Kerf.
 - Root.
 - Gullet.
- 54 What does a split feed roller allow on a thicknessing machine?
- Short lengths can be fed safely.
 - Long lengths do not require end support.
 - Increased stock removal in one pass.
 - More than one piece can be fed at the same time.
- 55 On which machine would cutter block adjustment be found?
- Morticer.
 - Cross-cut saw.
 - Surface planer.
 - Spindle moulder.
- 56 What is the purpose of a false fence when using a profiling machine?
- To limit the height of cut.
 - To restrict the depth of cut.
 - To stop the cutter being ejected by accident.
 - To minimise the exposure of the cutter block.
- 57 What is the **most** likely cause of the end of a hollow square mortice chisel turning blue in use?
- Too little pressure applied with the morticing lever.
 - Too much pressure applied with the morticing lever.
 - Too little clearance between the auger and chisel.
 - Too much clearance between the auger and the chisel.
- 58 Timber has been thicknessed for stair strings and the faces show pronounced pitch marks. Which **best** describes the problem and how it can be fixed?
- The feed speed is too fast. Reduce the feed speed.
 - The feed speed is too slow. Increase the feed speed.
 - The friction rollers do not rotate. Lubricate the rollers.
 - The infeed rollers are covered in resin. Lift the pressure bar.

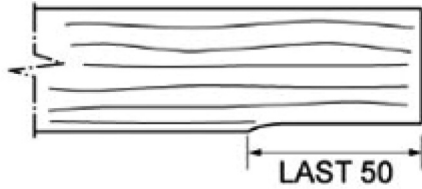


Figure 13

59 When planning the faces and edges on a surface planing machine the fault shown in Figure 13 occurs. Which **best** describes the cause of the fault and how can it be remedied?

- a The cutter block is set too high and needs to be lowered.
- b The infeed table is set too high and needs to be lowered.
- c The outfeed table is set too low and needs to be raised.
- d The outfeed table is set level with the infeed table.

60 Match the component parts in list 1 with the finished joinery item in list 2 and select the answer that **best** matches.

List 1

- 1 Jambs
- 2 Tread
- 3 Transom
- 4 Base board
- 5 Meeting rail
- 6 Top rail.

List 2

- W Door frame
- X Casement window
- Y Cupboard
- Z Box frame.

	W	X	Y	Z
a	1	4	6	5
b	1	6	4	5
c	6	5	4	3
d	6	5	2	3

NOW GO BACK AND CHECK YOUR WORK

- **IMPORTANT -**
Are the details at the top of the answer sheet correct?
Have you filled in your answers in INK in the appropriate boxes on the answer sheet?