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7905-503 JUNE 2018
Technical Certificate in Bricklaying
Level 2 Bricklaying – Theory exam

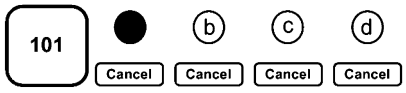
Monday 18 June 2018
09:30 – 11:30

You should have the following for this examination
- a multiple choice answer sheet
- a pen with black or blue ink
- non-programmable calculator

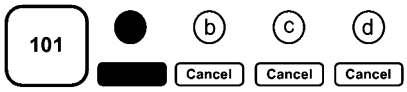
This question paper is the property of the City and Guilds of London Institute and is to be returned after the examination.

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.

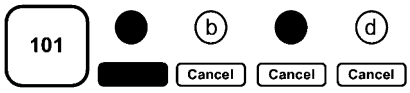
For example if you decide 'a' is correct, mark your answer like this



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



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



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.

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1 What reason would a Building Control Officer inspect a site?

a To check the quality of building materials.
b To check the work meets regulations.
c To check the Bricklayer's pay rate.
d To check the Health and safety.

2 What name is given to the drawing that shows the detail of a cavity and it's width?

a Site.
b Location.
c Elevation.
d Sectional.

3 What regulation covers the use of power tools?

a PUWER.
b COSHH.
c RIDDOR.
d CDM.

4 Why is it important to plan deliveries of construction materials?

a To ensure the lowest prices are obtained.
b To ensure continuity of work.
c To ensure the best quality supplies.
d To ensure that the storage areas are fully stocked.

5 Which operatives are involved in the substructure work on a building site?

a Plumber and Electrician.
b Carpenter and Tiler.
c Bricklayer and Ground worker.
d Plasterer and Tiler.

6 Which operatives are responsible for the installation of central heating in a dwelling?

a Bricklayer and Carpenter.
b Plumber and Gas Engineers.
c Painter and Decorator.
d Plasterer and Tiler.

7 What is the **most** common method of finishing the joints on the inside faces of the cavity?

a Flush.
b Recess.
c Tuck.
d Struck.

8 Which type of roof requires the bricklayer to build a gable end?

a Flat.
b Truss.
c Dome.
d Hip.

9 Which operative applies the finishes to ceilings and walls?

a Electrician.
b Plasterer.
c Bricklayer.
d Plumber.

10 Which part of the building spreads the load of the entire building?

a Roof trusses.
b Walls and floors.
c Superstructure.
d Foundation.

11 Which member of the building team is responsible for measuring completed brickwork?

a Building Surveyor.
b Quantity Surveyor.
c Building Control Officer.
d Health and Safety Executive.

12 Which information source should be used to establish the length of a cavity wall?

a Verbal instructions.
b Written dimension.
c Scaled dimensions.
d The number of bricks.

13 Which work activity carried out by a bricklayer would have a fall risk and require protective barriers to be erected?

a Building a log store.
b Building a garden wall.
c Building a conservatory base.
d Building a inspection chamber.

14 Which statement is true in relation to the provision of welfare facilities?

a Toilet facilities are not required to be ventilated.
b Internet access must be provided for communication purposes.
c Rest rooms are not required to be provided with tables and chairs.
d Washing facilities must be provided to include hot, cold and running water.

15 Who has the authority to make a water connection to a building plot?

a Supplier.
b Site agent.
c Contractor.
d Sub contractor.

16 What is the common vertical spacing for wall ties at reveals?

a 150 mm
b 225 mm
c 450 mm
d 600 mm

17 Which materials would be used to water proof a chimney where it leaves the roof?

a Flashings and aprons.
b Rafters and battens.
c Roof lights and flashings.
d Tiles and felt.

18 What is the **best** type of joint finish for a wall which is exposed?

a Recess.
b Flushed.
c Half round.
d Weather struck.

19 Which inspections are carried out by a Building Control Officer during construction?

a Thickness of dry lining and type of reinforcement tape.
b Excavation of foundation and testing of drainage.
c Height of the chimney stack and type of heating.
d Type of roof and plaster board thickness.

20 Which sequence is correct for the make-up of an over site concrete slab?

a Excavation, hard-core, blinding, DPM, concrete.
b Excavation, concrete, hardcore, blinding, DPM.
c Excavation, drainage, hardcore, concrete, DPM.
d Excavation, hardcore, concrete, drainage, blinding, DPM.

21 Which components would be used in timber frame construction?

a Block inner leaf, brick outer leaf.
b Brick outer leaf, block inner leaf.
c Timber frame inner leaf, brick outer leaf.
d Timber frame outer leaf, brick inner leaf.

22 What is the correct procedure when laying a horizontal DPC to the inside leaf of a cavity wall?

a Lap the DPC on top of the DPM.
b Lap the DPC underneath the DPM.
c Cut the DPM level with the DPC.
d Use the DPM as a DPC.

23 Which method of closing a cavity would provide the **most** airtight seal?

a Use the wall plate to close the cavity.
b Use the soffit board to close the cavity.
c Use the blockwork to close the cavity.
d Use the roofing felt to close the cavity.

24 Which information source would be used to determine the type of lintel to be used in a cavity wall?

a Floor plan.
b Elevation.
c Specification.
d Bill of Quantities.

25 How many bricks are needed to build 1 m^2 of English bond walling?

a 60.
b 90.
c 120.
d 150.

See next page

26 When laying horizontal DPC, why does the bricklayer lap the joints?

a To ensure minimum wastage.
b To ensure structural stability.
c To make fixing easier.
d To stop rising damp.

27 Where should the perp joints be maintained in a wall constructed in stretcher bond?

a In the centre of the stretcher.
b Next to the quoin header.
c In the middle of the header.
d Next to the quoin stretcher.

28 Which item of equipment could be used to maintain the size of door and window openings?

a Profile.
b Gauge rod.
c Spirit level.
d Builders square.

29 How are door threshold protected during the construction process.

a By covering with building paper.
b By fixing softwood strips.
c By applying softwood strips to the reveals.
d By applying hardwood strips to the reveals.

30 What immediate action **must** be taken when finding a hazard on site?

a Submit a full report the following day.
b Report the issue to management.
c Enter the task into the accident book.
d Make amendments to the risk assessment.

31 Calculate the number of concrete blocks required for a 100 mm thick wall, when the depth from the top of the foundation concrete to the DPC level is 0.675 m and the length of the wall is 6.000 m long.

a 9 blocks.
b 14 blocks.
c 41 blocks.
d 67 blocks.

32 How can the consistency of colour and strength be maintained when mixing mortar?

a Mixing by hand.
b Mixing by mixer.
c Gauging by volume.
d Gauging by shovel.

33 When returning a single leaf block wall, which cut is placed next to the corner to form the bond?

a Half block.
b Quarter block.
c Full brick.
d Half brick.

34 A cavity wall 8 m long has several windows and a door opening along it length. How should the face line of the wall be maintained?

a Aligned to the quoins.
b Aligned to the door frame.
c Aligned to the window frame.
d Aligned to the cills.

35 What is used to span a small opening for a service pipe entry in a cavity wall?

a Metal plate.
b Timber lintel.
c Plastic arch former.
d Precast concrete lintel.

36 How can brickwork be protected against the effects of efflorescence?

a Wire brush the face brickwork.
b Reduce exposure to water.
c Use a hose pipe.
d Render the newly laid brickwork.

37 Calculate the total amount of bricks required to build a half brick thick wall, when the wall measures 17.0 m long and 2.625 m high with a window opening 1.2 m x 0.9 m. Allow 10% for waste.

a 2290 bricks.
b 2308 bricks.
c 2587 bricks.
d 2874 bricks.

38 What is the **most** economical way of bonding a half brick thick concrete block wall at a return corner?

a Half block on one face with a quarter block on the return face.
b Three quarter block on one face with a quarter block on the return face.
c Quarter block on one face with a half block on the return face.
d Full block on one face with a half block on the return face.

39 What material is **best** used to form a T junction in a straight wall without bonding the junction?

a 100 mm nails.
b Screw and plugs.
c Epoxy resin.
d Proprietary connectors.

40 What would be the effect if the block work in a cavity is higher than the brick work at the top of a window?

a The seating of the lintel will be uneven.
b The window will be out of level.
c The horizontal will be sloping.
d The cavity closer will not fit.

41 What is the advantage of still air in a cavity wall?

a Increases ventilation.
b Improves insulation.
c Prevents mortar droppings.
d Increases spacing of wall ties.

42 Which document provides information regarding which joint finishes should be applied to cavity wall?

a The schedule.
b The specification.
c The bill of quantities.
d The method statement.

43 How many bricks are needed to build 1 m^2 half brick thick wall?

a 45.
b 60.
c 90.
d 120.

44 What material is incorporated into a steel lintel for a cavity wall during manufacture?

a Sand.
b Cement.
c Insulation.
d DPC.

45 What is the **best** practice when fixing lightweight insulation batts?

a The batts are un-bonded, joints taped and no wheels.
b The batts are bonded, no joints taped and wheels correctly fixed.
c The batts are un-bonded, joints taped and wheels correctly fixed.
d The batts are bonded, joints taped and wheels correctly fixed.

46 When building a cavity wall, how should the bricklayer ensure the joints are finished correctly?

a Ensure the rear joints are empty.
b Ensure some of the face joint is empty.
c Ensure all joints are full and jointed.
d Ensure the bed joint is recessed.

47 What is the purpose of a tray in a cavity wall?

a It is used to direct water to the outside.
b It is used to direct water to the inside.
c It is used to collect water.
d It is used to collect mortar droppings.

48 What is the **minimum** length for a steel lintel that will span a 2.000 m wide window opening?

a 2.150 m
b 2.200 m
c 2.300 m
d 3.200 m

49 Which is the **most** effective method of protecting a stone window sill in a cavity wall, from mortar droppings after installation?

a Nail timber battens.
b Cover in insulation.
c Build in a PVC cover.
d Cover in dry brickwork.

See next page

50 When loading out a scaffold with bricks or blocks to build a wall, what height should the bricks and blocks be stacked?

a Higher than the guard rail.
b No higher than the guard rail.
c No higher than the toe board.
d Higher than the middle rail.

51 Which regulation covers the requirements for understanding the cavity width, type and size of insulation to be used?

a Building.
b PUWER.
c Working at height.
d Working below ground.

52 What documentation would be referenced to determine the windows and doors to use on a project?

a Schedule.
b Programme.
c Gantt chart.
d Bar chart.

53 Calculate the total number of wall ties required, when the total wall area is 25.0 m^2, assuming 1 m^2 requires 9 wall ties.

a 3
b 34
c 166
d 225

54 Calculate the number of lightweight blocks required to construct a half brick thick wall, when the total area of the wall equals 166 m^2.

a 1606
b 1660
c 1992
d 9960

55 What **must** be ensured when building a cavity wall?

a That both leafs are level with each other.
b The inner leaf is higher than the outer leaf.
c The outer leaf is higher than the inner leaf.
d That both leafs are in contact with each other.

56 Why are weeps holes fixed above windows and doors in cavity walls?

a To allow an air flow.
b To allow for movement.
c To release water from the tray.
d To reduce the number of bricks.

57 Which item of equipment can be used to reduce mortar droppings when building a cavity wall?

a Smaller spot boards.
b Scaffold boards.
c Cavity battens.
d Cavity closer.

58 What is the purpose of fixing a cavity tray above an opening?

a The tray is to help fix the wall ties, the tray is glued to the lintel.
b The tray is to protect the upper edge of the lintel, the tray is nailed to the blockwork.
c The tray is to direct moisture to the inside of the building, the tray is screwed to the lintel.
d The tray is to direct moisture to the outside of the building, the tray is bedded with mortar.

59 If a cavity is obstructed above the DPC by mortar droppings, what major defect will this cause?

a Moisture penetration.
b Efflorescence.
c Cold spots.
d Ground subsidence.

60 What is the correct method, for positioning a steel lintel over an opening?

a Bed the lintel with a 5 mm bed joint, with a greater bearing on one side of the opening.
b Bed the lintel on the bearings using no mortar and set the lintel forward from the face brickwork by 10 mm.
c Bed the lintel on both bearings with a thin bed of mortar and set the lintel back 10 mm from the face brickwork.
d Bed the lintel with a 15 mm bed joint and fix the lintel flush with the face brickwork.

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?