

Qualification Title: Level 3 Advanced Technical Diploma in Bricklaying (7905-30)

Exam Title: 7905-001 & 501 Level 3 Bricklaying –Theory exam

Version: June 2018

### Mark Scheme

Q	Acceptable answer(s)	Guidance	Max marks
1	A		1
2	B		1
3	C		1
4	D		1
5	C		1
6	B		1
7	A		1
8	D		1
9	C		1
10	C		1

11	When extracting information to set out parts of a building. State the drawings that would be used to determine each of the following.		
	a) Window height. b) Storey height. c) Room size. d) Frontage line.		
	Acceptable answer(s)	Guidance	Max mks
	Answers as provided for <b>four</b> marks, <b>one</b> mark for each		4
	a) Elevations b) Sections c) Plan view d) block plan		
12	Describe the information that can be found on a Gantt chart that supports the efficient progression of a construction project.		
	Acceptable answer(s)	Guidance	Max mks
	<ul style="list-style-type: none"> <li>• Time (1 mark) describes the activities (1 mark)</li> <li>• Plant (1 mark) describes the duration required (1 mark)</li> <li>• Material (1 mark) when it is required (1 mark)</li> <li>• Labour (1 mark) quantity (1 mark)</li> <li>• Start and end date (1 mark)</li> </ul>	One mark will be awarded for the type of information found on a Gantt chart and a further mark for how it supports the progress, maximum six marks	6
13	Explain the importance of a Building Control Officer inspecting the excavation for a foundation prior to concrete being poured.		
	Acceptable answer(s)	Guidance	Max mks

	<ul style="list-style-type: none"> <li>To ensure correct depth ( atmospheric depth) (1 mark) that the sub foundation is protected from frost heave) (1 mark)</li> <li>To identify Tree roots (1 mark)(to ensure that they will not affect the sub foundation during dry weather) (1 mark)</li> <li>To ensure that the foundation is wide enough for the wall (1 mark) and the wall will fit on the foundation (1 mark)</li> <li>Identify the type/Bearing capacity of the sub foundation (1 mark) ( to ensure that it is solid enough to support the load of the foundation and building) (1 mark)</li> </ul>	Explain the importance of a Building Control Officer inspecting the excavation for a foundation prior to concrete being poured.	6
14	Describe how energy saving measures can be incorporated into a building to save energy.		
	Acceptable answer(s)	Guidance	Max mks
	<ul style="list-style-type: none"> <li><u>Double glazing</u> (1 mark) - not allowing heat to leave the building through thermal bridging (1 mark)</li> <li><u>Cavity wall insulation</u> (1 mark) by reducing the passage of heat through the walls</li> <li><u>Loft insulation</u> (1 mark) - by <u>reducing heat loss through a roof</u> (1 mark)</li> </ul>	<p>One mark for the energy source and one mark for how they it saves energy, <b>maximum</b> four marks</p> <p>Any other suitable answer accepted</p>	4
15	Describe <b>two</b> advantages and <b>two</b> disadvantages of using email as a method of communication.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Description of any <b>two</b> advantages and any <b>two</b> disadvantages for <b>four</b> marks</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>you have a record of the discussions</li> <li>instant</li> <li>audit trail</li> </ul>		4

	<ul style="list-style-type: none"> <li>• can be viewed on a range of devices</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• restricted access ie in relation to devices</li> <li>• impersonal</li> <li>• loss or deleted information</li> <li>• information interpreted incorrectly</li> <li>• not clear, lack of detail</li> </ul>		
16	Summarise <b>four</b> considerations when preparing a risk assessment for working below ground level.		
	<b>Acceptable answer(s)</b>	<b>Guidance</b>	<b>Max mks</b>
	<p>Summarise four considerations when preparing a risk assessment for working below ground level.</p> <p>A summary of any four considerations for <b>four</b> marks.</p> <p>Any other suitable answer accepted</p> <ul style="list-style-type: none"> <li>• Access to the trench- to allow safe access.</li> <li>• Egress from the trench – to allow a suitable means of egress.</li> <li>• Trench support – to provide sufficient support for the trench sides to prevent collapse.</li> <li>• Protective barriers- to stop passers-by from falling in</li> <li>• Positioning of excavated materials – to ensure that materials do not get in the way of the trench or impose too much weight on the trench sides.</li> <li>• Positioning of resources – to allow ease of work without loading the trench sides.</li> <li>• Presence of gas – Gases from passing vehicles can drop in to the trench and cause a hazard to those working in it.</li> <li>• Disposal of ground water – to ensure that the ground water level is controlled maybe by pump.</li> </ul>		4

	<ul style="list-style-type: none"><li>• Confined space- require special training for operatives.</li></ul>		
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17	Describe two defects that can occur if poor quality bricks are used for a brick on edge.		
	Acceptable answer(s)	Guidance	Ma x mks
	<p>Description detailing <b>two</b> defects that can occur from the use of poor quality bricks for a brick on edge.</p> <p><b>One</b> mark for each defect maximum <b>two</b> marks</p> <p><b>One</b> mark for describing the cause of each defect maximum <b>two</b> marks</p> <ul style="list-style-type: none"> <li>• Spalling (<b>1 mark</b>) – caused by water freezing inside the brick and blowing off the face (<b>1 mark</b>)</li> <li>• Water staining (<b>1 mark</b>) – caused by water soaking in to the bricks and staining the face. (<b>1 mark</b>)</li> </ul>		4
18	Describe the consequences of incorrectly fitting a blade to a disc cutter.		
	Acceptable answer(s)	Guidance	Ma x mks
	<p>Description detailing the consequences of incorrectly fitting the blade, for <b>six</b> marks</p> <p>The description should cover/focus on similar points as mentioned below, any other suitable answer accepted</p> <ul style="list-style-type: none"> <li>• personal injury to self and others</li> <li>• electric shock</li> <li>• machine failure</li> <li>• excessive vibration</li> <li>• dust and noise nuisance</li> <li>• damage to blade and equipment</li> <li>• flying debris</li> </ul>		6
19	Name <b>four</b> items used in a chimney to prevent water from penetrating the building.		
	Acceptable answer(s)	Guidance	Ma x mks

	<p>Any <b>four</b> of the following for <b>four</b> marks, <b>one</b> mark for each</p> <ul style="list-style-type: none"> <li>• Horizontal tray</li> <li>• Back gutter</li> <li>• Step flashing</li> <li>• Components <ul style="list-style-type: none"> <li>○ Apron</li> <li>○ Soakers</li> <li>○ Lead</li> <li>○ Engineering Bricks</li> </ul> </li> </ul>		4
20	Describe three design features that can be incorporated into a chimney to assist the dispersal of water from the stack.		
	Acceptable answer(s)	Guidance	Ma x mks
	<p>One mark awarded if three features is listed with no description</p> <p><b>One</b> mark awarded for the feature with a description <b>each</b>, maximum <b>three</b> marks</p> <ul style="list-style-type: none"> <li>• Concrete capping – to dispel water from the top <b>(1 mark)</b></li> <li>• Corbelling- disperses water from the sides <b>(1 mark)</b></li> <li>• Flaunching- dispel water from the around the pot <b>(1 mark)</b></li> <li>• Necking courses - disperse water from the side <b>(1 mark)</b></li> </ul>		3
21 a)	Give <b>two</b> reasons why the finished height contributes to the function of the chimney. (2		
	Acceptable answer(s)	Guidance	Ma x mks

	<ul style="list-style-type: none"> <li>The finished height should allow <u>gasses to be released above the roof level</u> (1 mark)</li> <li>The height should <u>prevent gasses from re-entering the building</u> through windows or vents (1 mark) as this could cause a danger to the occupants. (1 mark)</li> </ul>	To comply with building regulation is also an acceptable answer	2
21 b)	Why is it important to seal the chimney on a pitched roof.		
	Acceptable answer(s)	Guidance	Ma x mks
	A response broadly covering the below for one mark <ul style="list-style-type: none"> <li>Sealing the chimney <u>prevent water from entering</u> the building. (1 mark)</li> </ul>		1
22	<p>A client requires some advice and guidance on the planning and design of a boundary wall around a garden. The client hasn't provided much detail of what is required and needs some guidance.</p> <p>Discuss the information, advice and guidance that would be provided to the client.</p>		
	Acceptable answer(s)	Guidance	Ma x mks
	<b>Levels marking</b>  <b>Band 1 (1 -4 marks)</b> Response is basic and shows limited understanding of design and planning therefore the advice to the customer was unclear and not informative.  To access higher marks candidates should have provided some advice and guidance.	<b>Indicative content</b>  The candidate should provide advice to the client on the following criteria:  <b>Planning advice</b> <ul style="list-style-type: none"> <li>Access arrangement</li> <li>Effect on neighbour</li> <li>Ground condition/trees</li> </ul>	12



	<p><b>Band 2 (5-8 marks)</b></p> <p>Response provides good advice and guidance relating to the design and planning, but not all aspects taken into account, therefore the information provided was adequate, but understood by the customer. To access higher marks candidates needs to have provided most of the required advice and guidance.</p> <p><b>Band 3 ( 9-12 Marks)</b></p> <p>Response provides comprehensive advice and guidance relating to the design and planning, with the majority of the aspects taken into account, the information provided was extensive and clearly understood by the customer. To access higher marks candidates need to have provided all of the required advice and guidance</p>	<ul style="list-style-type: none"> <li>• Waste removal</li> <li>• Storage of materials</li> <li>• Underground Services</li> </ul> <p><b>Design advice</b></p> <ul style="list-style-type: none"> <li>• Examples of height</li> <li>• Thickness of the wall and piers</li> <li>• Advise on types of finish available ( brick/block/ render/ bond)</li> <li>• Advise on the possible implications of the construction of the wall that will need consent from local authority or adjoining neighbours</li> <li>• Advise on the options for the finish of the top of the wall (coping/ brick on edge/ solider course</li> <li>• Foundation type and depth</li> </ul>	
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