

6720-046 and 546 June 2018

6720-36 Advanced Technical Extended Diploma in Constructing the Built Environment (Construction) (720)

1	Describe the purpose of the guidance provided by New Rules of Measurement 1 (NRM1).		
	Acceptable answer(s)	Guidance	Max marks
	Either of the following or a similar form of words: <ul style="list-style-type: none"> To advise on the quantification of the building work required (1) to build up cost plans. (1) Outlines the order of cost estimating and cost planning (1) for capital building works. (1) 	n/a	2

2	State two advantages of using an electronic spreadsheet format for producing elemental work sections when working up an unpriced Bill of Quantities. (2 marks)		
	Acceptable answer(s)	Guidance	Max marks
	Any two of the following at one mark each. <ul style="list-style-type: none"> Provides a standard structure for the calculations. Computes values automatically from given data. Updates the calculations as cell values are changed. 	n/a	2

3	Describe how the following terms are used in tendering and estimating.		
3a)	Estimating.		
	Acceptable answer(s)	Guidance	Max marks
	Estimating is the procedure used by the contractor (1) to establish the cost to themselves of carrying out construction works. (1)	n/a	2
3b)	Preliminaries.		

	Acceptable answer(s)	Guidance	Max marks
	Preliminaries allow the contractor to assess costs that, while not part of any of the works required by the contract, (1) are required by the method and circumstances of the works. (1)	n/a	2

4	Explain why a client might choose to use a two-stage tendering process for an urgent design and build project.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A linked explanation that includes some or all of the following, at one mark each, to a maximum of five marks.</p> <ul style="list-style-type: none"> • To achieve early appointment of the main contractor. • To be more involved in the design. • To achieve an earlier start on site. • To achieve greater involvement in the pre-selection and appointment of subcontractors. • To transfer the design and construction risk to the contractor. <p>To secure serious contractor interest and well-resourced project teams.</p>	Do not accept cost without justification.	5

5	Explain how the following factors are taken into account in the superficial area method of estimating for the cost of a building.		
5a)	The dimensions required to determine gross floor area.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent explanation that includes some or all of the following to a maximum of two marks:</p> <p>The dimensions are measured at each level (1) to the internal face (1) of the external walls. (1)</p>	n/a	2
5b)	Stairs, internal walls, lift shafts and columns.		
	Acceptable answer(s)	Guidance	Max marks

	A coherent explanation of the following: No deductions are made for any of the indicated items. (1)	n/a	1
5c)	Special items such as raised areas, swimming pools and internal sports areas.		
	Acceptable answer(s)	Guidance	Max marks
	A coherent explanation of the following: They are excluded from the calculation (1), determined separately and added to the total (1).	n/a	2

6	State two defects associated with structural movement of a building.		
	Acceptable answer(s)	Guidance	Max marks
	Any two from the list below at one mark each. <ul style="list-style-type: none"> • Cracking of walls (eg brickwork/plaster) max one mark. • Bowing of walls. • Floors out of alignment. • Door frames twisted. • Movement along the bed joints and features eg cills. 	n/a	2

7	Describe why it is important to have a planned maintenance programme.		
	Acceptable answer(s)	Guidance	Max marks
	The main reasons why include; it keeps the property in optimum condition (1), allows work items to be scheduled (1) and costs spread out (1), it reduces running (1) and maintenance (1) costs over the life span of the building. Increases the lifespan of the building (1).	The answer needs to be a description and a list will be limited to one mark max.	3

8	Outline the three main stages when tendering for a conversion project.		
	Acceptable answer(s)	Guidance	Max marks
	<ul style="list-style-type: none"> • The contract documents are sent to the contractors (1). • Contractors price the works (1). • The contractor is appointed and contracts signed (1). 	n/a	3

9	Summarise the requirements of the Party Wall etc Act for a conversion project which requires structural alterations on and adjacent to the party wall.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent summary that describes the requirements and does not list them. Responses must relate specifically to the scenario given. The discussion will include some or all the following for one mark each to a maximum of five marks.</p> <p>Any work on or adjacent to a Party wall, structure or boundary (fence) may be subject to the requirements of the Party Wall etc Act (1). If the works materially alter the wall then a Party Wall Award is required (1). This is prepared by surveyors acting for the person the work is being undertaken for (Building Owner) (1) and the neighbour(s) (Adjoining Owner) (1). The award will stipulate the specific requirements of the Act and will serve to protect the structural stability of the wall/structure/boundary (1). A detailed record (Schedule of Condition) will be prepared (1) and along with the proposed work details will be appended to the award (1). The surveyors acting for the BO and AO will agree both the condition, and the works relative to the wall (1). The principal aim is to ensure that the new works do not impact on the wall in any way (1). During the works the BO and AO surveyors will monitor the works in relation to the wall (1) and both will inspect and sign off on completion (1).</p>	If candidates simply list the process then a max of two marks will be awarded for a comprehensive list.	5

10	Explain why certain building services tasks within the construction phase of a conversion project must be undertaken by a suitably qualified person.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent explanation that highlights that:</p> <p>All works to Gas and Electrical (1) installations must be carried out by a trained, certified and competent individual.</p> <p>Both gas and electrical installation are highly dangerous and failure to install correctly can lead to personal injury and damage to the property (1). Both trades are carefully regulated and certificates of completion are required at the end of a project (1). Building control will request copies of all certificates before they sign off on a project (1).</p>	Gas and Electric alone would get one mark. There needs to be a discussion as to why it is important and consideration of the need for certification by a qualified and competent person.	3

11	Explain the implications of poor workmanship on the long-term condition of a building.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent linked description that highlights the main issues caused by poor workmanship. These include (one mark each to a max of two marks as part of a linked explanation):</p> <ul style="list-style-type: none"> • Faster wear and tear of the fabric. • Increased maintenance cost. • Exacerbated failure of service components. • Reduced efficiency in the running costs. • Shorter life span for components. • Potential non-compliance with legislation. • Increased potential of obsolescence. 	If candidates simply produce a list, the maximum awarded will be one mark.	2

12	Name two historical events that prompted significant development and change to Building Regulations.		
	Acceptable answer(s)	Guidance	Max marks
	<p>Any two at one mark each from the list below.</p> <ul style="list-style-type: none"> • Great Fire of London. • Plague. • Cholera outbreaks. • Industrial Revolution. • World War II. • Ronan Point explosion. 	n/a	2

	<ul style="list-style-type: none"> • Climate change. 		
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13	State three categories listed in the current Building Act that the Building Regulations are designed to satisfy.		
	Acceptable answer(s)	Guidance	Max marks
	<p>Any three at one mark each from the list below.</p> <ul style="list-style-type: none"> • Health and safety of persons in and around building. • Conservation of fuel and power. • Preventing waste, undue consumption, misuse or contamination of water. • Protection or enhancement of the environment. • Sustainable development. • Prevention or detection of crime. 	n/a	4

14	Explain why Approved Document L will have increasing importance in the future.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent explanation that considers the reasons why. Max two marks for aspects of Part L: Approved Document L is the Conservation of Fuel and Power (1). It stipulates the minimum requirements for achieving compliance with the Build Regulations (1) and considers issues such as insulations (1) modern methods of construction (1) energy producing appliances (1) alternative energy sources (1).</p> <p>Max two marks for why: The UK Government have stated that through control of the Building Regulations and the reduction of energy consumption in the construction (1) and use of all buildings the country will be able to meet their commitment to climate change (1). Primarily concerned with the reduction in energy consumption for all new and refurbished buildings. (1). Approved Document L is a key part in the UK strategy for dealing with climate change (1).</p>	n/a	4

15	Describe how a developer should satisfy the minimum requirements for sanitary conveniences and washing facilities to ensure Building Regulations compliance.		
	Acceptable answer(s)	Guidance	Max marks
	<p>A coherent linked discussion that details the requirements of the App Docs to meet the minimum requirements.</p> <p>Requirements (max two marks): Sanitary Conveniences and washing facilities are covered in App Doc G (1). They stipulate, adequate and suitable sanitary conveniences must be provided in rooms provided to accommodate them or in bathrooms (1). Adequate hand washing facilities must be provided in rooms containing sanitary conveniences; (1) or rooms or spaces adjacent to rooms containing sanitary conveniences (1). Any room containing a sanitary convenience, a bidet, or any facility for washing hands provided in accordance with paragraph, must be separated from any kitchen or any area where food is prepared (1).</p> <p>Why (max one mark): Ensure hygiene, ensure consistent supply of services, prevent smells, prevents the spread of disease.</p>	n/a	3

16	<p>Your client has purchased a large double fronted Georgian town house (circa 1900) in a central location of a busy town. The property is traditionally constructed with solid brick walls, slate covered timber trussed roof and single glazed box sash windows. The property was last used as offices and is in a poor state of repair. Several of the original doors have been removed, the roof has slipped with missing slates and the windows have extensive wet rot. There is no thermal insulation and there are damp issues in the rear ground floor offices. The services are old but functional, however the cold-water provision is through lead pipes.</p> <p>Your client wants to convert the property back to a single dwelling which they intend to live in. The property is not listed, but is located in a conservation area. You have been asked to advise on:</p> <ul style="list-style-type: none"> • Procurement and contractual procedures. • Measures needed to comply with the Building Regulations. • Maintenance considerations once the property is refurbished. <p>Discuss the main considerations in respect of the client's specific request.</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p>Intention: <i>The aim of this question is for candidates to demonstrate their knowledge of the procurement process, to show their understanding of the maintenance requirements for a property and how to apply legislative requirements to a conversion project in order to satisfy Building Regulations.</i></p> <p>Band 1 (1-4 marks) The learner identifies a limited number of the key considerations, with limited discussion to support them. There is limited reference to benefits and limitations for different tendering procedures and maintenance options. The response lacks accuracy and detail and makes a limited reference to the scenario. To access higher marks, the response must be clearly linked to the scenario.</p> <p>Band 2 (5-8 marks) The learner identifies a range of the key considerations, with a broad discussion to support them. The responses are detailed and make some reference to the scenario. To access higher marks, the response must have the tasks listed in a logical order.</p> <p>Band 3 (9-12 marks) The learner identifies a comprehensive range of the key considerations with a detailed discussion to support them. The responses are detailed and makes clear links to the scenario. The learner demonstrates a thorough understanding of the main considerations and presents them in a linked and coherent manner. To access higher marks, the response must include reference to specific legislative requirements and contractual procedures.</p>	<p>Indicative content: Procurement and contractual procedures:</p> <ul style="list-style-type: none"> • Tendering procedures in relation to conversion projects, traditional tendering, negotiated tendering and tender timescales. <p>Measures needed to comply with the Building Regulations:</p> <ul style="list-style-type: none"> • Legislative needs, construction methods, building regulation compliance, approved documents and application process. <p>Maintenance considerations once the property is refurbished:</p> <ul style="list-style-type: none"> • Construction methods, maintenance requirements, maintenance options, schedules of maintenance and maintenance regimes. <p>For no awardable content, award 0 marks.</p>	12