

6720-054 and 554 June 2018

6720-37 Advanced Technical Extended Diploma in Constructing the Built Environment (Design and Planning) (1080)

1	State three measures a designer can implement to minimise the chance of flooding for a new housing development.		
	Acceptable answer(s)	Guidance	Max mks
	Any three of the following for one mark each, to a maximum of three marks. <ul style="list-style-type: none"> • Physical barriers such as flood banks. • Higher ground floor levels. • Use flood resistant materials. • Use SUDS system. • Reduce the area of tarmac/concrete. • Increase area of soft landscaping. • Use green roofing. • Utilize greywater methods. 	n/a	3
2	Name two different ways in which compliance with Building Regulations can be achieved.		
	Acceptable answer(s)	Guidance	Max mks
	One mark each for two of the methods listed below. Max two marks in total. <ul style="list-style-type: none"> • Approved Documents (max one mark for Approved Documents). • British Standards. • Approved Inspectors guidance (NHBC or LABC) max one mark. 	n/a	2
3a)	Describe what is meant by the term 'Cost Benefit Analysis (CBA)'.		
	Acceptable answer(s)	Guidance	Max mks
	A CBA is used to evaluate the total anticipated cost of a project (1) compared to the total expected benefits in order to determine whether a proposed project is worthwhile for a company or team. (1)	n/a	2
3b)	Describe how CBA may be used in the design process.		

	Acceptable answer(s)	Guidance	Max mks
	<p>Max two marks from the following:</p> <p>A CBA is used to inform design decisions allowing consideration of different designs and materials choices to produce the final design (1). A CBA may also be used to provide the client with a broad budget cost (1) and to guide the selection of a contractor (1). They are also used to obtain finance for a project (1).</p>	n/a	2
4	Explain why the construction team will need to communicate with the design team throughout the construction phase of a project.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Max six marks for a coherent explanation of the following reasons:</p> <p>The reasons why will include; design clarification (1), variations to the design (1), material ordering and supply (1) financial control (1) planning and programming (1), for health and safety compliance (1), unexpected occurrences (1).</p>	Any other suitable answer.	6
5	Explain the implications for the designer on the redevelopment of a property with listed building status.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Max one mark for the following:</p> <p>Buildings may be listed as grade 1 or 2 which limits what can be done.</p> <p>Max four marks for the following:</p> <p>There are several implications for redevelopment. The listing will detail the key features and characteristics along with the grade. This will inform and guide how much can be altered or changed in a listed building (1). All listed buildings can be worked on and developed (1) however, permission is required from the relevant local authority (1). All proposed works on the listed building, must not remove, damage or destroy any of the features that resulted in the listing (1). It is usually a requirement that any work is done in a style and with materials as close to the original as possible (1) if not, the new work must be sympathetic to the original (1).</p>	n/a	5
6	State three defects associated with structural movement of a building.		
	Acceptable answer(s)	Guidance	Max mks

	<p>Any three from the list below at one mark each.</p> <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	3
7	Describe why it is important to have a planned maintenance programme.		
	Acceptable answer(s)	Guidance	Max mks
	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 mks
	<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 mks
	<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</p>	If candidates simply list the process then a max of two marks will be awarded for a comprehensive list.	5

	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).		
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 mks
	<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 mks
	<p>A coherent linked description that highlights the main issues caused by poor workmanship. These include (one mark each 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.	3
12	State two types of work a residential building surveyor may survey for legal purposes.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Any two for one mark each from:</p> <ul style="list-style-type: none"> • Party wall. • Boundary dispute. • House disposal (sale) / acquisition (purchase) (one mark max). • Right to light. • Expert witness. 	n/a	2

13a)	State what is meant by the acronym 'RICS'.		
	Acceptable answer(s)	Guidance	Max mks
	Royal Institution of Chartered Surveyors.	n/a	1
13b)	State what is the role of the RICS.		
	Acceptable answer(s)	Guidance	Max mks
	The professional/governing body for surveyors who set and manage professional standards.	n/a	1
14	Explain the role of a building surveyor in a refurbishment project for an office building.		
	Acceptable answer(s)	Guidance	Max mks
	A coherent linked explanation that highlights how the building surveyor could be involved in the following way: <ul style="list-style-type: none"> • Inception – design ideas (1), budget planning (1). • Design – survey of building (1), production of drawings (1), production of specification (1). • Legal – dealing with H&S (1), planning and building control (1). • Contract administration – acting as contract administrator (1). • Project management of the works (1). 	The candidate must produce a coherent and linked discussion explain each of the above aspects of their involvement. A simple list will gain a maximum of two marks.	4
15	State two different ways in which a surveyor can reduce the health and safety risk when working at height.		
	Acceptable answer(s)	Guidance	Max mks
	Any two , max one mark each from: <ul style="list-style-type: none"> • Wear appropriate PPE. • Do not work off ladders. • Use alternative methods of surveying eg drones and pole cameras. • Use mansafe systems where provided. • Do not work alone. • Undertake dynamic risk assessments. 	The answers must be two different considerations. For example, wear a harness and wear a hard hat are both in the category of PPE so would achieve one mark.	2
16	State two sources of evidence a surveyor would obtain from a site visit for an insurance reinstatement survey.		
	Acceptable answer(s)	Guidance	Max mks

	Any two for one mark each from: <ul style="list-style-type: none"> • Size of the building. • Methods of construction. • Details of the surrounding area. • Information relating to the neighbouring properties. • Site wide restrictions or issues. 	n/a	2
17	Explain the safety measures a building surveyor should undertake off site, prior to commencing a site inspection for a survey.		
	Acceptable answer(s)	Guidance	Max mks
	A coherent linked explanation that considers the pre-survey protocol. This will include: Measures: max two marks: Speaking to the client to (1), check the planning portal to obtain details of any previous works (1), find out the age of the property (1), ascertain where possible the methods of construction (1), obtain any existing asbestos surveys (1), review any historic survey reports (1), view the property via in-line mapping systems (1), speak to neighbours (1) speak to contractors who may have worked on the building historically (1). Why: max two marks: Ascertain any known hazards, right equipment, avoid asbestos, identify if colleague is required.	n/a	4
18	Name two historical events that prompted significant development and change to Building Regulations.		
	Acceptable answer(s)	Guidance	Max mks
	Any two for one mark each from the list below. <ul style="list-style-type: none"> • Great Fire of London. • Plague. • Cholera outbreaks. • Industrial Revolution. • World War II. • Ronan Point explosion. • Climate change. 	n/a	2
19	State three categories listed in the current Building Act that the Building Regulations are designed to satisfy.		
	Acceptable answer(s)	Guidance	Max mks
	Any three for one mark each from the list below. <ul style="list-style-type: none"> • Health and safety of persons in and around building. • Conservation of fuel and power. 	n/a	3

	<ul style="list-style-type: none"> • Preventing waste, undue consumption, misuse or contamination of water. • Protection or enhancement of the environment. • Sustainable development. • Prevention or detection of crime. 		
20	Outline how Approved Document E applies to a residential flat refurbishment.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Max three marks:</p> <p>Approved Document E – Resistance to the passage of sound (1) is used to ensure that individual residential units do not transmit excessive sound to adjoining premises (1). It prescribes the minimum requirements (1) in terms of sound insulation (1). The main areas it covers are for floors (1) and separating walls (1) between individual residential units (1).</p>	n/a	3
21	Explain why Approved Document L will have increasing importance in the future.		
	Acceptable answer(s)	Guidance	Max mks
	<p>A coherent explanation that considers the reasons why.</p> <p>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
22	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 mks

	<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 two marks: Ensure hygiene, ensure consistent supply of services, prevent smells, prevents the spread of disease.</p>	n/a	4
23	<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"> • The role of a building surveyor in the refurbishment project. • Measures needed to comply with the Building Regulations. • Compliance with Planning Legislation. • Maintenance considerations once the property is refurbished. 		
23a)	Explain why there is a need to refurbish older buildings.		
	Acceptable answer(s)	Guidance	Max mks
	<p>Explanation that considers some of the following points, to a maximum of three marks:</p> <p>Lack of land (1), societal changes (1), brownfield use (1), individual needs (1), fashion (1), preservation of old buildings (1), changes to meet legislative changes (1).</p>	n/a	3
23b)	Discuss the main considerations in respect of the client's specific request.		
	Acceptable answer(s)	Guidance	Max mks

	<p>Intention:</p> <p><i>The aim of this question is for candidates to demonstrate their knowledge of and understanding of the role of the building surveyor in a refurbishment project. To show they understand the maintenance requirements for a property and how to apply legislative requirements to a conversion project to satisfy planning and building regulation requirements.</i></p> <p>Band 1 (1-5 marks) The learner identifies a limited number of the key considerations, with limited discussion to support them. There is limited reference to the role of the building surveyor in a refurbishment project and limited consideration of the maintenance and requirements and application of the building regulations and compliance with planning legislation. 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 (6-10 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 (11-15 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:</p> <p>Role of the building surveyor:</p> <ul style="list-style-type: none"> • Building survey, specifications, drawings, inspections. Project management, certification, contractual matters, payments, quality control. <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>Compliance with Planning:</p> <ul style="list-style-type: none"> • Planning process, planning applications, specific requirements for conservation areas, change of use, documentation required. <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><i>For no awardable content, award 0 marks.</i></p>	15
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